

# AMERICAN AGRICULTURIST,

FOR THE

## Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

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Suggestions and Notes for the Month.

The showers of April melt the icy fetters which have bound the northern streams, and they sing their hymn of freedom as they run along. The opening of an American Spring is a very matter of fact season. We have few of the flowers which have had the charm of English poetry added to their own loveliness. The Snowdrop does not bloom through our melting snows, nor have we many spring flowers that have been widely celebrated in song. The *Epi-gaea*—the fragrant and modest May Flower of the Pilgrims—did it only grow all over the country might well be taken as our emblematic Spring Flower, but this is found in comparatively few localities. Our most common harbinger of Spring bears the unseemly name of Skunk Cabbage. This with its curiously shaped and mottled horns which are lifted up in the swamps, is the forerunner of the great floral procession which will soon come crowding on. Showers and sunshine in fitful alternation are the characteristics of April. Under their influence the dull pastures brighten into a tender green, and the sombre hue of the woodlands is enlivened by the red of the maple buds, and the warm gray of the poplar tassels. Nature begins to paint the great landscape, and the farmer, did he but know it, is an artist working with nature to help make up the picture. In plowing the fields he is preparing the canvas on which the waving grain and ripening corn shall paint gorgeous and ever-changing colors.

Let us stop here upon the threshold of spring work and consider if the plans formed during the season of rest, have included all that may be accomplished. The main work of the farm has been laid out and the labor for that must be done. Having provided for the staple crops, is there not some other spring work for which

time can be spared, and which will add much to the comfort and attractiveness of the homestead? In the Autumn we look upon the orchard with its ripening fruit, with great interest, but we are very apt to forget it in the Spring. In spite of neglect the generous trees still yield fruit, which might be increased both in quantity and quality, by a little extra care. If the orchard bears good fruit it may be made to bear better by a coat of thorough manuring now, and judicious pruning at a late season. If the trees are still vigorous, "natural" ones which bear fruit fit for cider only, now is the time to renew them by grafting. If they are old and have suffered from long neglect, now is the time to plant a new orchard to replace them. Last year established the value of orchards. It was one of unprecedented plenty, yet, in most places, good fruit brought remunerative prices, and orchardists are extending their plantations. An orchard of well selected trees will be a great comfort in one's declining years, will be an excellent inheritance to leave children, and, if the homestead should have to be sold, will add to its value an amount that will pay well for the investment.

Another thing that should claim attention is the front yard, or approach to the house. A home-like look can, with a little pains, be given to a very rude dwelling. It is not boards and brick and mortar alone that make an attractive home; it is the manner in which they are put together. Every one, no matter how poor, has certain materials at his disposal, and the character of his home will depend upon the way in which these are used. In the first place, let the front-yard be neat, and if there is neither time nor taste for adornment with flowers and shrubs, have a smooth grass plot with here and there an elm or maple, or other forest tree. We have seen a climbing rose give to a log house an air of rural beauty which is quite wanting in the bleak, staring white houses that many a wealthy farmer builds. Were farmers' dwellings made more attractive both within and without, their sons would be much less willing to leave them.

#### Work for the Farm, Household, etc.

**Accounts.**—In the haste to commence plowing and sowing, other important interests should not be overlooked. A successful cultivator must be also a man of good business habits; observant of markets, and ready to improve the favorable moment for either buying or selling. Keeping accounts will add to the thrift, and give more certainty to all operations.

Let every transaction of purchase and sale, all contracts, terms made with hired help, time of their commencing work, amount of outlay and return for each field, animal, etc., be plainly noted, for reference. A fairly kept book is better evidence in a court of law than a treacherous memory, or an interested witness.

Barley has proved a profitable crop in many

localities. Sow Spring variety on rich and well pulverized soil, 2½ to 3 bushels per acre. Smut will be prevented, and growth hastened, by soaking the seed 24 hours in a weak solution of blue vitriol and then rolling it in air-slaked lime. Moistening with tar water and rolling in lime, answers a similar purpose. It should not lie long after being prepared, or it will heat.

**Birds.**—Prepare houses for martin's and wren's in the vicinity of the dwelling, and allow swallows access to the barn. They are a very efficient police against destructive insects. Tame pigeons feed upon grain, and are not cleanly.

**Bones.**—Save all found upon, or brought upon the premises, and lay in a large stock, if they can be procured cheaply. They are better than any "patent" manures. Break them with a sledge hammer, and put them freely in the soil around fruit trees. For immediate use upon annual crops, they need to be dissolved in a wooden hooped barrel, in one part of sulphuric acid and two or three parts of water. They need four or five weeks time. The fluid is to be poured off and mixed with a large quantity of muck. Some recommend to moisten them with the acid and then bury them in a heap of horse manure, where they will soften.

**Buildings.**—Lose no time in finishing such as will be needed for shelter or storing produce. Clean out all rubbish from barns, stables, and sheds, and add all suitable materials to the compost heaps. Whitewash cattle stalls, poultry houses and roosts, and the insides of other out-buildings. Keep all in repair. A good coat of paint where needed will more than repay its cost in preserving woodwork. It is better applied now than later in the season. Trellises for training vines to buildings are preferable to fastening the plants directly upon the boards.

**Cabbages.**—Those raised in hot-beds for earliest marketing, may be transplanted in favorable weather. Early York is a favorite field cabbage for market. Set in rows 2 by 2½ feet.

**Calves.**—Raise enough of the best to keep the farm fully stocked. Teach them to drink when one or two days old. After the first week their food may be gradually changed from new to skim milk, and a few weeks later to gruel of shorts, rye, oat or barley meal. A little wheat flour boiled in milk will relieve the scour. Keep their pens dry and clean.

**Carrots** deserve more extended culture as a field crop. They are of high value for feeding horses, cattle, and sheep, in Winter. Sow on highly manured, mellow, deep soil, free from weeds, in drills 14 inches apart. An acre requires about 2 lbs. of seed. It should be tested by sprouting before sowing; it is often poor.

**Cattle**, both young and old, need an extra relish of roots, if at hand, or grain, to keep them in condition as Spring advances. Restrain them from the pasture until a fair bite of grass is

grown, otherwise their appetite for hay will diminish, before they can gather enough to keep them in flesh. Deal liberally with working oxen; an occasional feed of potatoes will be beneficial, with a regular allowance of corn meal or shorts. Give roomy stalls to cows about calving, and watch, to render them assistance if needed. In breaking heifers to milk, avoid teaching them to kick by roughly handling their teats when sore. Keep these well oiled, and treat them gently at all times.

**Cellars.**—Clean out and whitewash at once, if not already done. Windows of fine wire gauze, millinet, or "mosquito cloth," are useful to admit air and exclude insects. If milk be kept there, it should be in an apartment separate from the general store room. Cement the floors, or lay plank flooring wherever it is necessary to walk.

**Clover** is an important crop. In no better way can a soil be fertilized than by turning under a heavy growth of it. The first of this month is a good time to scatter seed over old meadows and pastures, and especially on winter grain fields. Choose the first still morning, when the ground is full of little frost cracks, and sow seed liberally with or without herds-grass seed—with it if designed for a meadow or pasture for two or three years. The seed falls into the frost openings, and is finely covered in thawing. We have seldom failed of a good "catch" by this method.

**Corn.**—Good seed, and either good soil or plenty of manure, are the essentials. Corn is one of the seeds most readily injured by dampness or heating—in the shock or crib. It is always best to test an average sample selected from the whole seed in advance, by sprouting in warm soil. It is much better to do this than to risk the loss of a crop, or of many hills. The seed is the least part of the expense. Corn is a gross feeder, and revels in plenty of manure of any kind. It is a sun plant, and not a water one. Rich land, warm and dry—drained if at all needed, is what fills the corn crib—and the purse. A heavy sod turned under is a good place for corn roots to revel in.

**Cranberries** have almost always brought a high price, and are likely to. Many a useless swamp might be turned into a cranberry silver mine, with proper skill. We have given considerable information on the mode of doing it, in previous volumes. Eastwood's little work (costing 50 cents), gives some information on this topic, and is the only book on the subject we know of.

**Drainage.**—"It pays," is the testimony of hundreds of our old readers who followed our earnest advice and suggestions years ago. While waiting for sun and wind to dry out wet land, lay plans to prevent such delays in future, and execute these plans at the earliest practicable moment. Air is essential to roots growing in a soil. Air and water can not both be there at once. Warmth is equally necessary, but rapid or slow evaporation of water from the surface is like an ice bath.

**Finca.**—A rail was thrown down in Winter; an ox saw it, and went over, leading his companions; they trampled down in a night ten thousand square feet of surface, and half spoiled a dozen or twenty young fruit trees. Enough said.

**Grain Fields.**—A single animal will soon tramp out plants that would yield a bushel. See page 88 (February). If plants are much heaved by frost, a roller will often benefit them, if used where the ground will not be injured by the team. Fill up the bare spots by harrowing or hoeing in spring-wheat—better have a crop of mixed wheat on the ready prepared ground, than a crop of weeds. Carefully clean the dead furrows, and outlets of under-drains; a small amount of back water may kill out a bushel of grain, which two minutes time would save.

**Grass Seed.**—See on Clover. Grass seed may be sown at the last harrowing in of oats or other spring grain. The lighter the covering the better.

**Hedges.**—It is high time to set Osage Orange plants, for at any point where they will flourish, the ground is now ready to work. We should not set

them north of 40°, as a general rule. Let somebody else test the White Willow. Buckthorn will answer in many northern localities. Clean up the useless hedge rows along the fences; they are nurseries of foul weeds, and vermin.

**Hogs** will probably be in better demand next Autumn, than during the past year, and the pigs should be cared for. Good food to the sows will reappear in the sucking pigs and produce earlier and more rapid development.

**Horses.**—Inure them to hard work, gradually. Have a merciful harness; a hard spot or badly adjusted draught may give them constant pain, and consequent loss of flesh, and produce a serious galling or sore. More work; more strengthening grain. Washing off mud and sand from the feet and rubbing down at night, will give them comfort and vigor, and may save scratches or other sores. Mares near foaling can not do hard work and bear good progeny: a hard day's drive may take \$10 from the value of a colt.

**Manure.**—Don't leave any to "waste its sweetness in the desert air," while rotting all Summer in the barn-yard corners, in the pig stys or hen roosts, or in the privies. Every shovelful put under or around crops and trees will reappear greatly multiplied in the grain bin, corn crib, or fruit cellar, before the season is over. No manufactured fertilizer purchased can equal the barn-produced material. After all this is used, it will do to try genuine Peruvian guano, superphosphate made of unburned bones and not mixed with cheap matters, and a few other honestly made fertilizers made up principally of animal matters.

**Meadows.**—It is easier and cheaper to pick up a stone now, than to grind a scythe in haying time; to remove bushes and stubs now than to mend scythe snaths then. A roller settles the frost-heaved roots, and sinks the hummocks and small stones. Fill up the bare spots by sowing seed. Cattle droppings in heaps, if scattered with a long handled mallet, will fertilize several square feet instead of spoiling one. Fine manure, or ashes, or lime, spread broadcast as a top-dressing, will show itself in the hay mow, after (not) many days.

**Oats** are relatively the highest priced grain in our market—75 to 85 cents a bushel just now. Where the insect is not feared, they are worth looking after. The earlier they can be sown the better. They like good soil but not too much rich manure, or the straw will grow rank and fall.

**Onions** often pay well as a field crop. Any one cultivating them will find it well worth while to consult the lengthy, full directions given by 17 practical men in our onion book, which costs but two dimes. See advertisement on page 127.

**Pastures.**—The young grass shoots that would hardly make a bite for an animal now, will, after a few weeks growth, afford several mouthfuls of good nourishing forage. Ergo—keep animals off from the pasture until well started. Sheep gnaw so closely as to give the grass no chance to start. Fertilize and fill up pastures the same as meadows.

**Plowing.**—See page 112. Remember that all the soil below you is yours, and appropriate a little more of it every year. Too much of the new soil brought up at one time may injure the whole for the first crop, though not afterwards.

**Potatoes.**—Plant early on good, mellow, clean, soil. Coarse, or thoroughly rotted manure is best; fermenting manure is not always safe. Ashes or lime is generally useful, in the hill or whole soil.

**Poultry.**—More rations, more eggs. Fresh meat while insects are wanting, is the basis of eggs. Ashes or lime to roll in, helps them to keep off insects. Greasing the roosting poles smothers the insects on them.

**Roads on the Farm.**—A stone removed, or a root pulled up, may save a broken wagon or harness, and perhaps a balky horse. We find coal ashes and cinders make the hardest and best walks and public street crossings without raising high ridges.

**Rye.**—The same remarks apply to winter rye as to wheat. We are unable to say much about spring rye, and would like to hear from those who can.

**Sheep** were never before in greater demand, or at higher prices. Every lamb will be worth saving and nursing. Take good care of the ewes; shelter from cold and rains, and separate them from the rest of the flock. Keep them in good heart; feed sparingly, if at all, with grain; they should be in good health, but not fat. Tag locks and flith should be removed from their udders and elsewhere.

**Sorghum.**—Prepare the soil the same as for corn, and plant as early as the ground and season will admit, covering very lightly. We prefer 3½ feet drills, the seed sown thickly, and when well started thin out to 10 or 12 inches apart in the row, leaving the best stalks.

**Tobacco.**—See pages 108 and 104.

**Tools.**—We can not too often impress the fact, that two men with first-rate implements will do as much as three men with poor ones, while the difference in cost is not great. To be short of good implements is the worst economy, especially in these times of scarcity of help, and high wages.

**Trees** add to the beauty, comfort, and saleable value of a farm. A purchaser will pay much more for a farm with a few well arranged trees; it looks better to him, though he may not notice why. Fruit trees are of course doubly valuable.

**Wheat.**—See grain fields above. Spring wheat will come in well to fill the bins and take to market in Autumn. Sow at the earliest date the ground will do to work. After frosts will seldom injure it.

### Orchard and Nursery.

This will be a busy time with both the seller and the purchaser of trees. The nurseryman will now experience the utility of preparatory work. If a good stock of trees was heeled in last Fall, in anticipation of the Spring sales, and if labels and packing materials are at hand, a large amount of orders can be rapidly dispatched. The conscientious nurseryman will never send out a badly-grown plant or one about which there is any doubt as to the name, nor will he substitute a variety which he has for one which is not in stock. To those who buy trees we say, deal directly with the nurseryman, and do not buy of traveling tree-peddlars. Consider that an orchard is generally planted for a life-time, and a little care now will save much future vexation. In the first place, find out what varieties of fruit have done well and are most salable in your locality, and make the main planting of such sorts. Doubtful and fancy kinds can be sparingly planted by way of experiment. Having determined what to plant, send the order directly to the nearest reliable nurseryman. If you know of none, look over our advertisements. It will be better to pay the cost of freight from a distance, than to plant unreliable trees if they were furnished without cost. If not ready to set out the trees as soon as they are received, dig a trench large enough to hold the roots, and set them in as close as they will stand, and cover the roots well with earth. Should trees become shriveled from drying, dig a trench and bury the whole, branches and all. In a few days they may be taken out plump and bright.

**Apple Trees** should be planted early. Manure well and thoroughly plow the soil intended for the orchard. Stake the trees as soon as they are planted. Old trees should be cleansed as directed in basket note on page 103, and have a dressing of manure and ashes spaded in about the roots. See list of varieties adopted by the Fruit-Growers' Meeting, on page 115.

**Drainage.**—Except in a naturally dry subsoil, drains should be laid in the orchard. Stone sewers or large tiles should be used, and laid at the depth of 3, and better 4, feet, and near enough to remove all water standing in the soil.

**Grafting** may be done this month, and even later. Clons should be secured before vegetation starts.



The same care should be exercised in selecting clones as in purchasing trees. Merely grafting a tree does not, as many suppose, improve it, unless the graft is of a good kind. Root-grafts may be planted in the nursery as soon as ground is ready.

**Insects.**—The war on these should never cease. Crush the eggs wherever found, and kill every moth, no matter how beautiful and innocent it may appear.

**Manure** pays as well in the orchard as anywhere. Some varieties which will not bear at all if neglected, are fruitful and profitable if properly manured. Put it into a considerable area where new trees are to be planted, and on the surface around those already growing.

**Pear Trees.**—For orchard culture the best growers advise standards; that is, the pear grafted on pear stock, and not on quince. There is no danger that the supply of late pears will equal the demand. See note on page 116, and list of varieties on page 17 of January *Agriculturist*.

**Seeds** of fruit and ornamental trees should be planted as soon as the ground is ready. These should be sown in drills in good mellow soil.

**Stocks.**—Seedling stocks taken up last Autumn should be got into the ground. If neglected then, take up as soon as the ground is thawed, and cut back the root and top.

**Pruning.**—Consult last month's Calendar.

### Kitchen Garden.

When the Calendar for March was prepared, there was every prospect of an early Spring—much more so than now, as a month later we make up these directions for April. The ground is frozen, and we have more snow than during February. Still, before this paper reaches the readers, the spell of Winter will perhaps be broken, and the weather admit of active operations in the garden. Nothing is to be gained by "hurrying the season;" the ground must have time to thaw, settle, and become warm, and this will take place much earlier if the garden has been properly drained. In many localities, especially at the North, the suggestions for last month will be appropriate now, while further South, and along the sea-shore, much other work may be done. To those who have a good garden, nothing need be said upon its importance. To those who have not given sufficient attention to this valuable part of the homestead, we would say, it will *pay* to make one. A good warm, rich soil is best, but if that be not found near the dwelling, almost any soil can be brought into good condition by draining, deep plowing, and *plenty of manure*. We know that the garden is almost always the most profitable portion of the farm. Keep a careful debt-and-credit account with it, crediting every item taken off at a fair valuation, and our statements will be proved. Should there be a slight deficit in the course of two or three years, it will be more than made up by the pleasure given. Have a good garden, even though it diminish the staple field crops by a few bushels. A wealthy farmer friend of ours always has early and choice vegetables upon his table, but to save trouble, he buys them in the market of a neighboring city. This may do for him, and others of like means, but not for the great mass. But every one may, with a little exertion, have most luxuries of the garden without going to market. It may be owing somewhat to imagination, but we always think the vegetables of our own raising are better than any that can be bought.

**A Hot-bed or Cold-Frame Substitute.**—In these hints we often refer to hot-beds and cold frames,—the former a glass-covered box with a bed of warm, fermenting manure under the plants; the latter the glass covered box without the fermenting manure. Their construction has often been described in the *Agriculturist*, and they are so cheaply made, so easily managed, and so convenient, that they may well find a place in most gardens. But when they cannot be had, other methods may be adopted

to secure early plants. Small earthen pots are the best, but one of the cheapest is the use of sods. Cut up good green turf three or four inches deep, and divide it into many little squares with a knife or spade. Pack these pieces closely together, bottom side up, in boxes, or on boards, and plant in the centre of each piece, one or more seeds, of any plant desired early—vegetable or flower—corn, peas, tomatoes, melons, cabbages, etc. Whole or cut potatoes may also be put in. Set in a warm place, as on the south side of the barn, house, or shed, but carry them to the cellar or a warm room, if a cold night or day occur. The more sunshine they have the better. The only further care needed will be to always keep the sods moist, *not wet*. This may be done by wetting on the under side along the bottom boards, or by occasional light syringing or sprinkling from above, as needed. The seeds will start and get two or three weeks' growth—a clear gain of so much time. When the soil and season admit, separate the pieces, and set them out in hills or drills, as required, putting the earth well around them. The plants will grow right on, all the better for having the sod decaying around the roots.

**Artichokes.**—Uncover, and if desired to increase the bed, plant out suckers from old plants, in well-prepared beds. This is not much cultivated, however, and we look upon it as rather a fancy vegetable, which costs more than it comes to.

**Asparagus.**—This is worth far more than it costs. Rake off the coarser part of the winter covering of manure, and fork the finer portion into the soil, taking care not to injure the crowns. Water with refuse brine, or apply salt. See directions on forcing in March Calendar. Sow seed for new plantations in drills one foot apart. New beds may be made by planting out two-year-old roots. Lay the plot off in beds 4 feet wide, with convenient alleys between. The ground cannot be made too rich or worked too deeply. It is high culture rather than any particular variety that makes large asparagus. Three rows, one foot apart, may be put on a 4-foot bed, with the plants one foot apart in the rows. Put the crowns of the plant at least 4 inches below the surface. Many otherwise good beds are ruined by planting too near the surface.

**Beans.**—Should not be planted until all danger of frost is past. In some places Early Valentines and Six Weeks may be planted late in the month.

**Bean-Poles and Pea-Brush.**—These should have been already secured, but if it has been neglected get a supply at once. Nothing looks more unsightly than peas stuck with brush cut after the leaves have started.

**Beets.**—Sow the Early Bassano as soon as the frost is out of the ground. The seed may be sprouted by soaking over night in warm water; then pour off the water and keep in a covered vessel in a warm place. It is well to dry the seed off before sowing, with plaster if you have it. In sprouting these and all other seeds, the growth should not be allowed to proceed too far, for if the little root be broken off, as it is apt to be in sowing, the germ will perish. As soon as it breaks the seed-coat and appears, the seed should be sown. What passes for the seed of the beet is really a kind of woody cup containing several seeds. If all grow, we have a number of plants very close together. A correspondent suggests to break up the seeds before planting; he finds it to be a saving of seed, and renders future thinning much easier. We have never tried it, but give the suggestion for those who wish to experiment. The seed may be broken by carefully rolling between two boards. Sow in drills 18 inches apart.

**Broccoli.**—Treat like cauliflower.

**Cabbage.**—Sow in hot-beds, if not already done, or in sods as above. Transplant from hot-beds as soon as the season will allow. Early York and Sugar-Loaf are still among the best early sorts, and the excellent Winningstadt comes on soon after them. At the last of the month the sowing for a late crop may be made in the open ground.

**Carrots.**—Sow the Early Horn in rich, deep soil, in drills 1 foot or 15 inches apart.

**Cauliflower.**—Early plants in the hot-bed may now be potted off or pricked out in a cold frame, if they are getting large, and the season will not permit their being set in the open ground. They will be none the worse for a second transplanting. In planting out, recollect that the ground can hardly be made too rich.

**Celery.**—The great difficulty with this crop is to get the seeds started, for they are very slow in germinating. They may be sown on a warm border or in a cold frame. A friend of ours, who never fails of getting a crop, piles the brush and rubbish of the garden upon the bed and burns it, and then rakes the ashes in with the soil, and sows the seed when the bed is cool. No doubt this burning over the bed may be advantageously practiced with many seeds that are slow to start. The seeds of weeds are killed, and the ashes act as a fertilizer.

**Cold Frames.**—These may still be advantageously used, to start tender seedlings. Those in which the plants are already up, should have the sash removed every fine day.

**Cress or Pepper-Grass.**—Sow early in rows 6 inches apart. Sprinkle the plants with ashes to keep off insects.

**Cucumbers.**—Nothing is gained by planting too early in the open air. Some for an early crop may be started in the hot-beds or on sods. The Early Russian is a favorite sort for an early crop.

**Drain** wherever needed. There are but few gardens that will not pay well for draining. This improves the texture, admits air and warms the soil, making it much earlier. A drain or two costing but little, will sometimes double the yield of a whole garden, and bring everything forward earlier.

**Egg Plants.**—These cannot be forwarded too soon. If not already growing in the hot-bed, they should be sown at once. Pot off the plants which are large enough. The Long Purple is the earliest, but the large Purple is most generally cultivated.

**Garlic.**—Set out the divisions of the bulbs, or cloves as they are called. This is little employed in cooking in this country. Judiciously used in very small quantities, it imparts a most delicious flavor to soups, stews, etc.

**Horse Radish.**—New beds may be made by planting crowns or pieces of the root. Make the bed where it can remain permanently, as it is almost impossible to eradicate it to make room for another crop. The benefit of liberal manuring will be seen in the increased size of the roots.

**Hot-beds.**—Give plenty of air to prevent the plants from becoming too delicate. Stir the soil between the rows, which has become hardened by frequent watering. Weed carefully, and thin out the plants where crowded. In many localities the first of this month will be quite early enough to start a hot-bed for plants for the family garden.

**Kohl Rabi.**—Sow in hot-bed or sods for early, and in the open ground at the last of the month.

**Leeks.**—Sow in rich soil in rows 15 inches apart.

**Lettuce.**—Transplant from the hot-bed as soon as the season will allow; sow in hot-beds, or cold frames, or in sods, and in the open ground. There are so many varieties that we are puzzled to make a selection. The Neapolitan Cabbage, the Butter, and the Ice Drumhead, will satisfy every one.

**Manure.**—There should be a bank of well-decomposed manure always ready to honor all demands. Prepare for liquid manure. A peck more or less of hen-dung in a barrel of water makes a wonderful persuader to vegetation.

**Mustard** may be sown for salad or greens as soon as the ground is open.

**Melons** may be started in the same way as cucumbers. Try the White Japan, if possible to procure the seeds. The Jenny Lind is very early and good.

**Nasturtiums** are useful and ornamental, and very easily grown. They make the best of pickles, and

yield beautiful flowers. Sow in a warm place the last of the month, and give them some support. Pea-brush will do, or, if near a fence, they may run upon strings or wires.

**Onions.**—Put out Potato and Top onions, and sow seed in rich mellow soil. Avoid the use of manure containing foul seeds. Muck and ashes are excellent for this crop. Some cultivators burn over the bed to destroy the weed-seeds. Use great care to get pure seed. Sow thinly in drills 15 inches apart.

**Parsley.**—Sow early. It is always a long time in coming up. It is sometimes sown along the margins of beds, for which it is a very pretty edging.

**Turnips.**—Sow in rich, deep soil, at the last of the month, if the weather admits. A correspondent suggests that those of last year's crop still in the ground have the tops cut off about half an inch: in this way they will keep good until the ground is needed for another crop.

**Peas.**—See article on page 115, this number.

**Peppers.**—Sow in hot-bed or sods. The true thick-fleshed squash pepper is the best for pickling.

**Radishes.**—A light, quick, sandy soil is essential. Unless a radish grows rapidly it is worthless. Sow early, and at intervals for succession. The Turnip-rooted and Olive-shaped are good sorts. Water with liquid manure; use ashes if attacked by insects.

**Rhubarb.**—Set out whole roots or crowns, as soon as the ground will admit of working. Three feet apart is usually quite near enough to give the leaves room to expand. Make the ground rich with well-rotted manure. Fork in plenty of manure around the old stocks. See Calendar for February. Seed may be sown as early as convenient. All who could not get one or two year-old roots or crowns, have doubtless sent for seed from our distribution. The young seedling plants will require less room the first year, and may be kept in a bed, thinning out, or transplanting as needed to prevent crowding. Note the best and largest plants for after use. Ten to twenty roots are all that will be needed by any ordinary family.

**Salsify.**—Sow as early as the season will admit. See article on page 84, last month.

**Seeds.**—Many of these can be profitably raised in the garden, while others may be purchased more cheaply of those who make a business of growing them. Set out all roots which have been saved for seed, as well as seed onions, in a rich spot, and where they can be daily noticed, in order that they may be gathered at the right time.

**Squashes.**—Summer squashes may be started as directed for cucumbers. Winter sorts should not be planted until the ground is thoroughly warmed.

**Sweet Herbs.**—There should always be a bed for these humble, yet useful tenants of the garden. The perennial sorts, like lavender, thyme, hyssop, etc., may be propagated by division of the roots. We prefer to start sage from the seed or from cuttings. Summer savory, basil, and sweet marjoram, may be sown when the ground is warm.

**Sweet Potatoes.**—The roots may be placed in a hot-bed, in order to get sets for planting. In absence of a hot-bed a frame of boards may be placed over a heap of fermenting manure covered with a few inches of earth. The potatoes will soon sprout. The frame should be covered with boards at night and during cold days.

**Spinach.**—There should be a good supply from the wintered crop. Sow early for succession, in drills a foot apart.

**Tomatoes.**—Pot off from the hot-beds those that are large enough, and place the pots in a cold frame. See article on page 114. If not done already, start seed in the hot-bed, or in sods.

**Tools.**—Clean every one before it is put away. If you have never used a spading fork or bayonet hoe, try them and you will not readily give them up. A man with a first-rate hoe or other implement will do twice as much as two men with poor

tools, and the saving of time will often pay in a single day for the greater cost of the former.

**Turnips.**—Early kinds should be sown.

**Winter Cherry or Physalis** should be grown as directed for Tomatoes.

### Flower Garden and Lawn.

The work here will be mainly that indicated in last month's Calendar. Clearing up, planting shrubbery, and making preparations for the open season, will fully occupy all the time that can be given to this department. New grounds may be laid out, and old ones enlarged or improved. A garden is never finished. Each year presents suggestions towards that perfection which we all take so much pleasure in striving for, but never fully attain.

**Annuals.**—Asters, Balsams and others may still be sown in hot-beds, or, in absence of this, in a cold frame, or in sods as described under the Kitchen Garden. Those started earlier should be thinned and weeded if they need it, and if large enough they should be put into small pots to be ready to turn out as soon as the season will permit. As a general thing sowing is done in the open air too early.—See article on early sowing on page 115.—Still many hardy annuals can be properly put in as soon as the ground is in working condition. Two years ago we were unable to sow a large assortment of over a hundred varieties of annuals until June 1, and we had better success than in any previous year. As a general rule those annuals which readily spring from seed that is self-sown in Autumn may be put in early. Among these are Petunias, Whitlavia, Portulacca, Larkspurs, Candy-tuft, Sweet Alyssum, etc.

**Bulbs.**—Many of these will show flowers this month. In most localities the winter covering may be all removed very soon. Tall-growing sorts, such as Crown Imperials and some of the Hyacinths, will need to be staked, to prevent winds from breaking them down.

**Cold Frames and Pits** should be opened every mild day, to harden off the plants before they are turned out.

**Climbers** should be pruned and trained. Plant new ones in appropriate places. The Wistaria is one of the favorite climbers, and will stand the Winter wherever it is not colder than around New-York. In colder localities it may be laid down and covered with earth. For foliage merely, nothing is more beautiful than the Virginia Creeper, sometimes called the American Ivy or Woodbine. It grows everywhere, and can be readily transplanted from the woods. It is not poisonous, as many suppose. The poisonous Ivy has a three-parted leaf, while that of the Virginia Creeper is five-parted.

**Edgings.**—These are of great importance to the neatness of the garden, and are always a source of trouble. The edgings are very neat, but they are too expensive for most people. Box makes a neat edging, but it must be frequently cut, and needs to be reset every few years: besides, when the Winter is severe it dies out in spots and becomes ragged. Grass edgings are easily obtained, but they require frequent trimming to keep the roots from spreading. Whoever will introduce a neat, hardy, and easily-kept edging plant, will do a good deed. We prefer grass edgings, neatly kept and trimmed. They should be 6 or 8 inches wide. It is best to cut the turf in an old pasture, in strips twice as wide as the edging, as they are more easily transported, and can be divided with the edging-knife or a sharp spade, near the place they are to be laid.

**Evergreens** are transplanted with best success in May. Norway Spruce and Arbor Vitæ will bear removal earlier. Never let the roots of an evergreen be exposed to drying winds. More attention should be given to broad-leaved evergreens like the Holly, Laurel, Rhododendrons, etc.

**Gravel Walks.**—Remove all weeds and give a dressing of fresh gravel where needed. In making

new walks, be careful to select gravel that will pack firmly. Coarse river gravel will not answer.

**Hedges and Screens** may be set out. Buckthorn, Privet, and Hibiscus or "Shrubby Althæa," make good hedges. Arbor Vitæ, Red Cedar, and Norway Spruce, are best for screens.

**Lawns.**—If there are but few bare spots of moderate size, they may be filled with turf; if large, it will be necessary to sow seed. A top-dressing of fine compost will be beneficial: even coarse manure may be used if the long stuff is raked off after the rains have washed out the soluble portions. Plaster is a valuable application, on most lawns.

**Manure.**—If the borders had a dressing in Autumn, it should be forked in. If not, give them a good supply of fine compost. Don't forget that the trees on the lawn will thank you for manure by increased growth and beauty.

**Perennials and Biennials.**—Set out as early as practicable. See page 117 for a good selection. Hollyhocks and Sweet Williams should have been put out in Autumn; if neglected then, attend to it now. When it becomes warm enough for the main sowing, do not forget to put in seeds in a reserve bed, for a future supply of these plants.

**Roses.**—Plant out new, and transplant any old needing removal early. For ordinary culture, we prefer only those which bloom freely on their own roots. Many fine kinds are grafted, but they will soon disappoint those who cannot give them extra attention.

**Shrubs.**—Plant in masses as a rule. Single large growing specimens have a fine effect on the lawn. Have a regard to the winter aspect of the garden, and introduce evergreens where they will appear to good advantage when all other shrubs are bare. Wiegelia, Spireas, Japan Quince, Lilacs, Flowering Almond, and Plum, should be in every collection. Where it is desirable, increase by divisions of large specimens. The purple-leaved Barberry makes a fine contrast to the green of other shrubs.

**Trees.**—Plant in every appropriate spot. Study the effect that will be produced, and do not plant a round-headed tree like a maple where a graceful elm would be more pleasing. Every tree has its particular expression, and where much planting is to be done, the advice of a landscape gardener should be taken, or standard works upon the subject should be consulted.

### Fruit Garden.

These hints are given under a distinct head because in the best culture vegetables and fruits are grown in separate grounds, but they are equally applicable where circumstances require that both be grown together. In planting fruits of any kind it is important to get good sorts, and this is equally necessary with small fruits as with large. We have already given lists of pears and grapes, and on other pages of the present number will be found lists of other fruits fixed upon by practical growers after a full discussion upon their merits.

**Cherries.**—Plant standards or dwarfs as early as possible. Most varieties may be dwarfed by budding on the Mahaleb stock, when they form compact bushes suitable for the garden.

**Currants.**—Old plants need no attention now beyond liberal manuring. Currants are generally left to take care of themselves, but no plant more readily responds to good cultivation. Chip manure is excellent for them, but they will be glad of something better. Rooted cuttings of last year may now be put out where they are to stand, cutting back the last year's growth to three or four buds. Cuttings made in the Fall and Winter should be put out; they should be put two-thirds of their length in the ground, and have all the buds which are buried removed.

**Figs.**—These are sometimes grown at the North, but they require great care in laying down in Autumn, and even then are killed by a severe Winter.



Uncover as soon as the weather becomes settled.

**Gooseberries.**—Treat these the same as currants.

**Grapes.**—No farm or garden should be without this delicious fruit. There are some sorts which will do well without extra care, and others which will well repay for pruning. See reports of the Fruit-Growers' meetings in March number, and articles on page 116. Our special premium of grapes will doubtless be the means of introducing good varieties to many localities. Where there are late frosts it is best to remove the winter covering of earth from the vines, and leave them laying on the ground until all danger of frost has passed, having straw or litter ready to throw over them in case protection is needed. Great care is needed in tying vines up to the trellis after they have started. Fork well-rotted manure into the borders, if not rich.

**Pears.**—No garden can be complete without a good selection of dwarf pears. They are always the pets of the garden, and well repay the care bestowed on them. See January *Agriculturist*, page 17, for a list of choice varieties. Trees that have been properly grown in the nursery will have but one main stem, and be well furnished with branches, the lowest of which start from near the ground. Before planting out cut back at least one-half of the former season's growth.

**Quinces.**—Put out cuttings in rich soil. This tree is generally left to have its own way, but it can be made to grow shapely by proper pruning.

**Raspberries.**—Plant out in rows 4 feet apart, with the plants 3 feet in the row. Uncover those buried for the winter, and tie up the canes to stakes or trellises. Cut away the canes which fruited last year, if not done before. Fork a good dressing of manure around the roots, if not in good rich soil.

**Strawberries.**—The mulching of straw applied in Autumn should be parted directly over the plants. New beds may be prepared and planted; make them in good soil, and enrich it with old manure. Make the beds 4 feet wide, with alleys two feet wide between them. Three rows of plants may be put upon a bed of this width. Set them 18 inches apart each way, which will bring the outside rows 6 inches from the edge of the bed. The plants, when taken up, should be prepared for planting by removing all the dead leaves, and shortening the roots about one-third. Spread out the roots evenly, and plant as deeply as can be conveniently done without leaving any soil on the crowns of the plants.

**Trellises.**—Should be repaired. See page 116 for description of a cheap and neat style of trellis.

### Green and Hot-Houses.

Fire heat in the green-house may now be dispensed with during warm days, but will often be needed at night. Keep the house open as much as possible, in order to prepare the plants for removal to the grounds. Hot-houses will need much less fire and more air as the weather grows milder.

**Bedding Plants.**—The rooted stock should be potted off. Cuttings of Verbenas, Ageratums, Petunias, etc., may still be made.

**Bulbs.**—The hardy kinds that are out of bloom may be turned into the border.

**Callas.**—Water freely, and turn to keep them from drawing toward the light.

**Camellias.**—Those out of flower should be kept in a growing state. Syringe freely and prune into shape. Make cuttings.

**Fuchsias** will need more water as the blooming season approaches. Insert a stock of cuttings.

**Grapes.**—These are in such different states of forwardness that no particular directions can be given. Those forced early will have the fruit of a size to require thinning. Cut back the laterals above the bunches to three leaves. Syringe with water to which sulphur has been added, to prevent mildew.

**Insects** increase rapidly, and will soon injure the young growth if not checked. Use whale oil soap, and other preventives, as already recommended.

**Inarching** may be performed on oranges, lemons, and other shrubby plants.

**Pruning.**—Head back unshapely and feeble plants, to induce the formation of vigorous shoots.

**Seeds** of green and hot-house plants may now be sown. Those of tropical countries will need a strong bottom heat. Where there is room sow a few pots with annuals, or even garden vegetables.

**Shifting.**—Plants needing more room may be repotted. Cut away any diseased roots. Dress with fresh earth those that do not need shifting.

**Water** freely rapidly-growing plants. Cactuses, aloes, and other succulents need but little water.

**Weeds and Moss** should be carefully kept down.

### Apiary in April.

Strong stocks of bees need little attention now, except to destroy any moths that may have found their way into the enclosure. The moth worms may be found curled up on the floor of the hives on cold mornings, whence they are easily removed on raising the hive.... Clean out all filth, and any clusters of dead bees about the combs. The bees collect pollen, and but very little honey at this season. If the store of honey in any hive has fallen short, put a supply in shallow dishes under the boxes, with shavings or chips in it for the bees to alight on.... When short of home rations at this season, bees are prone to rob others. Watch for unusual excitement towards evening. A strong hive attacked will usually defend itself, especially if the entrance be contracted so that they can meet the intruders one at a time. Weak colonies should be removed at once to a cellar or dark room, until after a few warm days, when the poachers will have turned to honest pursuits. Stop depredations as early as possible; a successful robbery emboldens them to further free-booting.... It is seldom advisable to disturb bees already doing well. If changes are to be made to movable frame hives or otherwise, let it be done now. Look out now for any more hives needed at the swarming season.

### Strawberry Exhibition.

AT THE  
OFFICE OF THE AMERICAN AGRICULTURIST  
\$50 in Prizes.

The Proprietor of the *Agriculturist* invites Strawberry Growers, of this vicinity and elsewhere, to make an exhibition of their choice fruit on Thursday and Friday, June 18th and 19th,\* at the *American Agriculturist Office*; and to give zest to the exhibition, offers the following

#### PRIZES:

- |   |          |
|---|----------|
| A—For best 25 approved varieties (one quart each)....   | \$7      |
| B—Second prize.....   | 4        |
| C—Third prize.....  | 2        |
| D—For best dish of market berries (two quarts of one variety.—It will be very desirable to show plants with fruit in addition)..... | 3        |
| E—For second and third best do. do. ....  | \$3, \$2 |
| F—For largest three berries of one variety, (weight and size both being considered).....  | 2        |
| G—For best New Seedling not before exhibited....  | 5        |
| H—For Second Best Seedling not before exhibited....   | 2        |
| I—For best flavored Strawberries (one quart).....   | 2        |
| J—For best quart of White Strawberries.....   | 2        |
| K—For best quart Everbearing.....   | 2        |
| L—For best quart of Bonte St. Julien.....   | 1        |
| M—For best quart of La Constante.....   | 1        |
| N—For best pint of Princesse Frederick William....  | 1        |
| O—For best pint of Empress Eugenie.....   | 1        |
| P—For best pint of Marguerite.....  | 1        |
| Q—For best quart Fillmore.....  | 1        |
| R—For best quart Cutter.....  | 1        |
| S—For best quart of Triomphe de Gand.....   | 1        |
| T—For best quart Wilson's Albany.....   | 1        |
| U—For best quart Hooker's Seedling.....   | 1        |
| V—For best quart Hovey's Seedling.....  | 1        |
| W—For best quart Victoria.....  | 1        |
| X—For best quart Jenny Lind.....  | 1        |
| Y—For best quart Vicomtesse Hericart de Thury.....  | 1        |

\* No sample can compete for more than one prize.

The berries to come in competition for the premiums must be upon the tables as early as 11 A. M. on Thursday June 18th, and each specimen must be correctly labeled. The Awarding Committee will attend to their duties at 12 M.—The exhibition will not open to the public until 2 P. M. When the premiums are awarded, the names, residence, and places of business of the exhibitors will be put upon the specimens, and the prize samples designated.

No Fruit exhibited will be removed before Friday evening without special permit.

The Committee of Award appointed by the Fruit Growers' Meeting, will consist of some of the most noted and reliable judges of fruits in the country.

\* Should any peculiarity of the season require a change to be made in the date of holding the exhibition, notice will be given in the June *Agriculturist*.

### Small Fruits—Good Varieties.

Since our inside sheet went to press, the N. Y. Fruit Growers' Meeting have finished the discussion, and adopted the following list of small fruits to be recommended for general culture:

**APRICOTS.**—Dubois' Golden; Peach or Moorpark; and as promising well: D'Oulin.

**CHERRIES.**—Belle de Cholsy; Black Eagle; Coe's Transparent; Elton; Early Richmond; Black Tartarian; Rockport Bigarreau; and May Duke.

**CURRANTS.**—Large Red Dutch; Versailles; Victoria; White Grape; White Dutch; Cherry; and Black Naples.

**GOOSEBERRIES.**—Downing's, Houghton's, and Mountain Seedlings.

**GRAPES PROMISING WELL.**—In addition to the list of those recommended for general culture, and for special localities, (see page 63 of February *Agriculturist*), the following were subsequently selected as the most promising: Creveling; Cuyahoga; and Allen's Hybrid. The list of wine grapes, after considerable discussion, was laid upon the table.

**PLUMS.**—Green Gage; Coe's Golden Drop; Imperial Gage; Washington, or Bolmar; Smith's Orleans; Jefferson; Lombard; and Yellow Gage.

**PEACHES.**—For Free Stones: Crawford's Early; Crawford's Late; Early York; Bergen's Yellow; George IV; Oldmixon Free; Morris White; Smock's Late; Coolidge's Favorite; Stump; Smock's Free. For Clingstones: Heath; Large White; and Oldmixon.

**NECTARINES.**—Downton; Stanwick; Early Newington; and Boston.

**RASPBERRIES.**—Hornet; Franconia; Brinckle's Orange; Belle de Fontenay; and Doolittle's Black Cap.

**QUINCES.**—Orange; Rae's Seedling; and Portugal.

**STRAWBERRIES.**—Triomphe de Gand; Bartlett; Wilson's Albany; La Constante; Cutter's Seedling; and Newland's Seedling (also known as the Pyramidal Chilli.)



Containing a great variety of items, including many good hints and suggestions which we give here in small type and condensed form, for want of space elsewhere.

**The Weather.**—The season is very backward. We had March weather in January and February, and are now having February weather in March. At this date, (March 26), even in this locality, the ground is deeply frozen, and partly covered with snow. Better thus, than to have a cold April and May, if so be that we do not have frosts and snow then. This late cold weather has promoted the filling of ice-houses, and is likely to have a favorable effect on fruit by keeping back the buds.

### The New Agricultural Bureau.

We recently spent a few days at Washington, partly to witness the closing proceedings of the Memorable 37th Congress, but mainly to look into the personnel, the working, and the prospects of the new "Department of Agriculture." There is certainly an improvement upon anything we have had for several years past. Hitherto there has been both incapacity and want of integrity. At present we believe there is an earnest desire to do the best possible for the agriculture of the country. Whether there is the needed ability, we shall wait to learn from what is accomplished. We have neither time nor room for further remarks this month.

**"Vineland Lands."**—We made a hurried visit to this locality, on March 5th, and intended to present a statement of our observations, but the great press upon our columns compels us to defer any further notice of the matter until next month.

**"English Wine Plant."**—To several inquirers. This is merely a Rhubarb plant such as is common all over the country. One of the best varieties for cooking or "wine", is the Linnaeus, the seed of which we offered freely in our Seed Distribution. The roots are offered in our advertising columns by reliable growers, at \$15 to \$18 per thousand, and there is no necessity for paying \$250 per thousand to traveling agents, for roots no better, if as good. The Ohio parties who are trying to get up an excitement on the subject, are honest enough to say that their "English Wine Plant" is a seedling of the English Rhubarb. We have seen many samples of alcoholic liquids made from the juice of the Rhubarb, but never a real wine. The great stories about its being a "delicious wholesome beverage purifying the blood"....infallible remedy for Dropsical Complaints," etc., will do for an advertisement—on a par we should say with the "sarsaparilla syrups" of the past. Before going into the speculation, better inquire how much of the best rhubarb wine can be actually contracted for with responsible parties, at 50 or 75 cents a gallon, let alone \$2.

**Remedy for Foot Rot in Sheep.**—A correspondent at Wilmington, Del., gives the following directions for treating this disease. "To 4 ozs. butter of antimony, add  $\frac{1}{2}$  oz. of corrosive sublimate. Pare off all the loose parts of the hoof and apply some of the mixture; then tie a rag around the foot. Examine it next day and if any part has escaped, apply again. It is very difficult to eradicate this disease from a flock where a number are affected, as with the greatest care new cases will occasionally occur, and unless the sheep are valuable, the butcher had better have them. [We hardly dare endorse a medicine composed of antimony and corrosive sublimate. It may be safe, however, and if so, would probably be effective.—Ed.]

**"Blind Stagers" in Sheep.**—N. D. Townsend, Vermillion Co., Ill. From the description of the disease among your flock, we judge it to be "Hydatid on the brain." The Hydatid is a minute parasitic insect, that in some unexplained manner finds its way to the brain, and forms a small sack containing watery fluid, in which it multiplies. These sacs increase in size, press upon the brain and absorb its substance, causing derangement, and ultimate death of the sheep. No certain cure is known. As the disease is most prevalent in weak animals, the preventive is to keep them in good condition. The malady is most frequent in wet marshy districts, and little known upon upland or dry pastures.

**Grub in the Head of Sheep.**—"Farmer's Son." The grub found in the head of sheep is the larva of a small fly, (*Strutius ovis*.) The winged insect is common during the months of July and August. It seeks to enter the nose of the sheep to deposit its eggs. The animals have a great dread of it, and may often be seen standing in a circle holding their heads near the ground, to escape it. From the eggs, a small worm is hatched, which makes its way up to some of the cavities opening from the nose, where it remains and feeds upon the mucus secreted by the membranous lining. The following Spring the full grown grub crawls out, and enters the ground, where it changes to a chrysalis and then to a perfect fly. The only difficulty known to be caused by the grub, is an unpleasant irritation to the animal: this may result in inflammation and disease, but no well authenticated instances are on record. A partial preventive is to plow a furrow through the pasture where the sheep may protect their noses. Some shepherds recommend to tar the noses of the animals during the Summer. We know of no cure. If let alone, the worms will leave of themselves in the Spring.

**Poisoned Sheep.**—Samuel Cone, Berkshire Co., Mass., inquires if wild parsnip is poisonous to sheep, and if so, what is the remedy. He has lost several sheep apparently from eating hay containing the wild parsnip.

**Apple Pomace for Feed.**—William Hull, Wayne Co., Pa. We have no experience in feeding stock with apple pomace, but should judge it to be of small value. Mixed with plenty of corn meal, it might be of some service. The experiment is worth trying.

**Hungarian Grass for Horses.**—E. Boyd, Cayuga Co., O. We have seen no account of injury done to horses by the beard of this grass adhering to the coat of the stomach. The seed alone is too hearty food, and liable to induce inflammation. If fed with the straw it is generally thought to be safe, we believe.

**Disease Among Poultry.**—"J. E. R." Orange Co., N. Y., writes that many choice fowls have died in that place of what seems to be chicken pox. The head becomes swollen, and sores the size of a pea appear on the combs, gills, etc. The fowls soon become entirely blind, and consequently die of starvation.

**To Keep Birds from Corn.**—A correspondent at Wilmington, Del., directs to put a bushel of corn into a half hoghead or other convenient vessel, and set it in the sun, or where it will be warmed. Pour over it a half pint of gas tar or a pint of common tar, and mix well until every kernel is smeared. Then stir in ashes, fine lime, or plaster, until the grains are separated, and spread it out to dry. (Without regard to the birds, it is generally well to smear the corn with tar, dissolved in from four to five times its bulk of warm water, and dry it off with fresh slaked lime. This kills smut; the tar is a good fertilizer itself; and the lime fits some of the soil to nourish the young plants. Birds will not eat it, but generally they are not satisfied without pulling up the kernels to find out whether they are tarred or not.—Ed.)

**What of the Italian Bee?**—Since the excitement attendant upon introducing this variety of the bee into the United States, but little has appeared on the

subject. We have heard of fair success in raising them by a few individuals, but hardly enough to yet advise substituting them for the ordinary kind. A reliable statement of facts, showing their comparative value, from those who have fairly tried the experiment, would be of interest.

**Good "Coon Hunting."**—E. Haynes, thus describes how he got the *American Agriculturist* for 1883. "I was out of money and did not know how to get any. The thought came that I could make the coons pay for my paper; so I got up at 4 o'clock, one morning in the middle of last December and started out with dog and gun. I got back at 5 $\frac{1}{2}$  o'clock with two coons, being gone just 1 $\frac{1}{2}$  hours. I sold one skin for one dollar, the other a small one, for 63 cents. I got 3 quarts oil out of both coons; sold 1 quart oil for 31 cents; have 2 qts. left worth 63 cents. So you see I made \$2.56 before breakfast. I send for the *Agriculturist*, *American Missionary* and the *Advocate and Guardian*. It pays don't it? [Certainly, such successful hunting pays, at such prices for coon skins; but it is not often that like good fortune is met with. As a rule, hunting hen's nests will prove more successful. Another subscriber says that the eggs and chickens produced by one hen last year, sold for enough to pay for his paper two years; and that the increased product of eggs by 12 hens, from following one hint in his *Agriculturist* about giving them fresh meat scraps, has paid for several years' subscriptions, during the present Winter. It always pays to hunt for good papers.—Ed.]

**Crop for Newly Drained Land.**—P. Putnam, Washington Co., N. Y. Almost any grain crop will succeed on well-drained land. A plentiful application of lime will be beneficial to ameliorate a sour mucky soil. If in good heart, a crop of potatoes will be likely to succeed, to be followed by rye the next Fall.

**Re-seeding Bare Spots.**—C. B. Huntington, Craneville, N. J. Give the bare spots in pasture land a thorough dressing with a heavy harrow; sow the seed, roll it in, and top-dress with finely pulverized manure.

**Giving Corn a Good Start.**—Gideon Archer, Monroe Co., N. Y., writes that he has obtained excellent results with corn by applying a mixture of equal parts of lime, plaster, and ashes, a handful to a hill, before the grain comes up. A vigorous start given to any young plant enables it to make strong and rapid growth.

**Binders for Corn.**—"L. F." writes us that corn which has been sown thick for fodder, makes the best binder he has ever used. Strips of the inner Basswood tree are sometimes used for the same purpose.

**English Seed Drill.**—Wm. Grawcock, Whitley Co., Ind. We know of no implement answering your description, made in this country.

**Flax Seed.**—This is so high, partly because of the unusual demand for sowing this Spring, and partly because the manner in which a large share of it is cultivated, keeps it in a few hands. In many places the manufacturers of linseed oil furnish the farmers with seed and contract for the whole crop at a certain price. This prevents the growers from benefiting by the present advance.

**Cotton in Illinois.**—Rev. J. A. Bent, of Hoyleton, Ill., (incorrectly printed in March, as Hazelton,) sends us the following additional note: "Since writing you concerning my attempt at raising cotton, I have made inquiries at places in Southern Illinois, where cotton gins are in operation, and I am convinced that in this part of the State, cotton may be reasonably expected to do better than mine did. I think in our rich soils it should be crowded in the drill to prevent overgrowth of stock, and to hasten maturity. Tennesseans resident here now, with whom I have conversed, think that from 500 to 1200 lbs. of unginned cotton can be raised; or from 150 to 350 lbs. of ginned cotton to the acre.—The people, stimulated by the extraordinary price of cotton, will plant a very large amount in Southern Illinois this year. All the seed is eagerly obtained at the gins. If nothing untoward prevents, you may expect to hear of an unprecedented cotton crop this year. Many are proposing to plant from 1 to 15 acres.

**Garnet Chili Potatoes.**—P. Putnam, of Putnam Co., N. Y., noticing our remark that this variety became hollow, says that he has not found it to be the case, and he thinks we may have mistaken the Chili Red for the Garnet Chili. The seed we used came directly from Mr. Goodrich, the originator, and was planted the first year on tilled land well manured, and the second year upon old pasture sod without manure. The potatoes were in both instances hollow and unfit for the table, though the yield was very large. We shall be glad to

learn that this is an exceptional case, as the variety seems to have the other qualities desirable in a good field potato.

**Beet Sugar in Illinois.**—C. H. Thayer, of Livingston Co., informs us that an extensive factory for beet sugar and sorghum is being erected at Chatsworth. The Ill. Central R. R. freight all beets raised along the line of the road free of charge. Preparations are being made for extended planting of the beet, and he promises to advise us of the success.

**The Big Beet Beaten.**—J. V. Kinney, Somerset Co., N. J., writes that last Summer he raised a beet of the Bassano variety, from seed distributed at the *Agriculturist* Office, which measured three feet in circumference. This beats the beet mentioned in the January number, by ten inches. [How much did it weigh?]

**Quantity of Seed to the Acre.**—Freston H. Smith. Seeds vary so much in their quality, especially some of the kinds you enumerate, that it is difficult to give precise quantities. There are sown of beets from 2 to 4 lbs.; carrots,  $1\frac{1}{2}$  to 2 lbs.; parsneps, 2 to 4 lbs.; turnips, 1 to  $1\frac{1}{2}$  lbs.;  $\frac{1}{4}$  lb. of cabbage seed should give plants enough for an acre, and enough to replace all destroyed by the cut worm.

**Hard Coal Ashes.**—Chas. Booth, Worcester Co., Mass. If the soil of the garden is stiff and clayey, coal ashes would be beneficial. Composted with the contents of the privy they would not be as good an absorbent as muck or loam.

**Grass for a Name.**—T. C. Wells, Kansas. The grass is *Uniola latifolia* or Broad-leaved Spike-grass. It grows wild at the West, and is so beautiful that it is often cultivated in gardens. It is a perennial.

**Average Yield of Grain.**—A statistical subscriber wishes to know if any one can inform him of the average yield per acre of wheat, corn, rye and oats in the United States, or in any single State or district.

**Chenango Strawberry Apple.**—The account of this apple, given on the authority of one of our best pomologists, is objected to by another fruit grower of large experience who says: "To my taste it is very nearly 'very good'—ripe in September and continues until the middle and last of October. Flesh tender, juicy, pleasant sub-acid; a very good amateur's fruit, but too tender for carriage to market. This is distinct from the Washington Strawberry."

**Sweet and Sour Apple.**—"T. H." This is an old variety which becomes unequally flavored. One side of it is slightly different from the other. The stories about producing an apple half sweet and half sour by budding with two half buds of different kinds, is all *boosh*.

**Apples in Southern Illinois.**—A. R. Rankin, of Crawford Co., Ill., says the following apples have proved good in Southern Indiana, and Illinois, viz.: Rawles Jannet, Belleflower, Rambo, Domine, Golden Gate (very fine), Newtown Pippin, and Pryor's Red. Fall Pippin, Red Streak and Smokehouse also do well.

**Trees from Cuttings.**—N. Gilbert, Oswego Co., N. Y. Peach, plum and cherry trees can not be successfully raised from cuttings in this climate. The quince is propagated easily from cuttings planted in a shaded place in the Spring.

**Stocks for Dwarf Apples.**—J. H. Miller, Pa. Doucin and Paradise stock are propagated by layers. The plant is cut off near the ground so as to induce it to throw out numerous shoots which are allowed to grow one season. The next Spring a mound of earth is heaped up around the shoots, so that the base of each one of them will be covered by at least three inches of earth. The shoots will take root and may be removed from the parent root in the Fall. The stocks can be procured cheaply from the large nursery establishments.

**Ashes for Peach Trees.**—E. Rex, Crawford Co., Ohio, says that when the trees are large enough to bear, he removes the sod in the Spring so as to lay bare the upper roots, and fills in the space with leached ashes. In the Fall the ashes are removed, and leaf or other vegetable mold put in their place. He says that he finds doing this every other season, preserves the trees in fine condition and prevents the attacks of the borer.

**Apples from Sprouts.**—I. G. Wolfe, Union Co., Pa. "Like produces like," even in apple trees. Trees from sprouts nearly always throw up suckers or shoots about the trunk. True, they can be frequently cut away; but the tendency to form suckers weakens the parent, besides involving the labor of removal.



**Hamburg International Exhibition.**

—The following gentlemen have been appointed Delegates: Hon. Ezra Cornell, Ex-President N. Y. State Agr. Soc.; Hon. Dan. Needham of Quincy, Vermont; Ex-Gov. Dyer, of Providence, R. I., and Chas. L. Flint, Sec. Mass. Board of Agriculture.—Messrs. Austin, Baldwin & Co. inform us that several Express Companies agree to reduce their freight 25 per cent. on all articles intended for the Exhibition, viz. American, Adams, National, California, and the Eastern.

**Butter and Cheese in Vermont.**

In a recent conversation with Mr. G. Merrill, Superintendent of the Vermont Central and Sullivan Railroads, he informed us, that during the year 1862, there were shipped at the St. Albans Station alone 2400 tons of Butter and Cheese. This is equivalent to 4,800,000, or nearly five millions pounds. Can any one give us anywhere near accurate statistics of the amount of each, butter and cheese, produced in the whole state? We have one fact of interest, viz., that in proportion to the inhabitants, there are more copies of the *American Agriculturist* taken and read in Vermont than in any other state, with perhaps the exception of Pennsylvania and the "State" of Long Island. Connecticut, Rhode Island and New-York, are nearly on a par with Pennsylvania. On Long Island every Post Office has its club of subscribers to this journal, and many of these clubs are very large. In our own town there are over 200 subscribers, who get the paper through the Post Office and in the city, though no canvass has been made for Premiums, and no other special efforts have been put forth. Not being a "prophet," this of course does not invalidate the general rule concerning that profession.

**Willow Hedges.**—James D. Blacker, of Long Island, writes that he made a trial of the Osier willow for a hedge, and found that the roots so monopolized the soil that nothing would grow near it. Potatoes planted near the hedge could only be dug by cutting among the roots of the willow with a sharp spade. A fence of the willow which had been set out four years, sent out roots 30 feet long into his garden.

**White Willow.**—W. S. Grow, Vt. We have not seen the willow cuttings advertised by any one at the East. The tree is common enough in all old settlements, and doubtless grows in your own State.

**Osage Orange Seed.**—W. E. Thomas, DeKalb Co., Ill. The seeds should be sprouted by covering with scalding water. When cool, this is poured off, and the seeds kept covered in a warm place until they sprout, when they are to be sowed. If large quantities are sprouted at a time, take care that they do not heat.

**Sorghum Seed.**—B. Borden, Pa., suggests that pure seed could be obtained by cultivating upon an island or upon a peninsula sufficiently remote from any place where any other variety is cultivated. He thinks if some one would cultivate thus for the seed, he would do a profitable business, and be a public benefactor. (If he gets pure seed to start with.—Ed.)

**Lima Beans.**—M. Witherill, Saratoga Co., N. Y. "Learns by observation" that Lima beans when they germinate do not come above ground like other beans. This is contrary to our observation. Perhaps his were planted so deeply that the leaves did not reach the surface, but their usual way is to behave like other beans.

**To Save Cucumber Seeds.**—W. W. Cook, of Hopedale, Mass., says "when the fruit is quite ripe, cut it open and scrape out the seeds into a suitable vessel, add an equal bulk of water and stir well together. In from 24 to 48 hours the mass will become quite sour, when, by rubbing and washing, the seeds may be made very clean. This method will answer for tomatoes or other similar seeds."

**Sweet Potatoes kept in Cut Straw.**

—We received, March 1st, from Mr. J. C. Thompson of Staten Island, a basket of Nansemond sweet potatoes which were as fresh and nice as the day they were dug. Mr. Thompson practices what he preaches, and the directions he gave for keeping sweet potatoes on page 335 of last volume (Nov. No.) prove eminently successful. It is now satisfactorily demonstrated that sweet potatoes can be profitably raised at the north, and successfully kept until Spring. We gave very full directions for the culture in the last volume of the *Agriculturist*.

**Notes on New Seeds.**—W. W. Johnson, Penobscot Co., Me., writes that Mammoth Millet distributed from this Office, and sowed by him in May, did not go to seed. In this latitude it ripens seed annually. Spelt, from our distribution, except one head, acted like winter

grain. A package from the Patent Office marked "Bald Barley," contained several kinds of that grain, and numerous *foul seeds*! After sorting, three-fifths proved to be a Bald variety, two rowed, and apparently good. The remainder was the common two and six rowed sorts. "St. James Carrot" from same source, yielded well, was shorter and more tapering than the Orange, was easily pulled without digging, and better than the Orange for the table.

**Soot in the Garden.**—C. A. Winthrop, Otsego Co., N. Y. Soot, from the amount of ammonia it contains, would be too stimulating for strawberry plants. It is a valuable fertilizer for all root crops. 6 or 8 quarts in a barrel of water will make an excellent liquid manure.

**Weight of Turnips.**—G. Lee, Middlesex Co., Mass. The laws of different States fix the weights of turnips at 55 lbs. to 60 lbs. per bushel. In Connecticut, where farmers raise many for stock, the weight is 60 lbs.

**Black Spanish Winter Radish.**

Geo. E. Lane, of N. H., says that he received some seeds of this and the Brazilian Swiss Chard from the Patent Office, and does not know what to do with the crop.—The radish is eaten by some; the Germans prize it highly. To our taste it is very strong, tough and unpleasant. The Chard should have been used for greens. See article on page 84 of last month. The roots if put out will give you seed next season.

**Treatment of the Orchard.**—W. S. Carpenter, of Westchester Co., N. Y., one of our most successful fruit growers, scrapes the trunks of his trees after a day or two of wet weather, and then applies soft soap with a brush. This kills the insects and moss. If the soap, as it is found in the market, is too firm to put on with a brush, it is brought to a right consistency by working it over like mortar.

**Pear Stocks.**—G. N. H., Jamesport, L. I. Pear stock are more difficult to raise than apple stocks, as they are liable to blight. Very early planting in a thoroughly prepared soil so as to secure an early growth, is recommended. The soil should be manured the Fall previous with vegetable mold, stable manure and ashes, and lime, if the soil does not contain it. Sow in rows three feet apart, or far enough to work with a cultivator.

**The Nectarine.**—J. T. McLain, of Morrow Co., Ohio. The Nectarine is quite hardy and will flourish wherever the peach will grow. Where the curculio is abundant, the fruit, like the plum, is liable to be injured. The tree, like the peach, should be pruned in February or early Spring. Cut away half the previous year's growth.

**Cherries for Iowa.**—Isaac H. Page, of Wapella Co., Iowa. Dr. Kirtland's cherries are said to belong to the Bigarreau class. If these cherries do well in your latitude, it would doubtless be safe to plant Dr. Kirtland's Seedlings. The Patent Office Report can probably be obtained by writing to the member of Congress for your district.

**The Persimmon.**—George Smith, of Hancock Co., Ill. The persimmon prefers a rich and rather moist soil. It is a small tree, sometimes 20 or 30 feet high. It grows wild in some parts of your State. Mr. Thomas Hogg, now in Japan, writes that the most delicious fruit of that country is a kind of Persimmon. He hopes to be able to introduce it here.

**Rabbits in the Orchard and Nursery.**—J. R. D., Warren Co., Ill., says that rabbits may be kept from young trees by greasing the trunk for about two feet from the ground. He uses either fresh lard or the fat of a rabbit.

**Grape Cuttings.**—Isaac H. Page, Wapella Co., Iowa. The Delaware grape is more difficult to raise from cuttings in the open air, than most native varieties. A propagator of our acquaintance succeeds by keeping them moist.

**Nursery Catalogues and Tree Planting.**

—We have received a large number of Nursery Catalogues, more than we have room to speak of in detail. The one issued by S. Hoyt & Sons, of New Canaan, Conn., deserves more than a passing notice on account of its full directions for selecting, planting, and the after-care of fruit trees. They say: "Never buy or set a tree until you have made up your mind to give it proper care. Order from responsible nurserymen. In planting, expose the roots to sun and air as little as possible. Cultivate the orchard for five years, but do not plow too deep or too close to the trees. Buckwheat is admissible for a crop, but never sow oats or rye. Wash the trunks each Spring with a solution of 1 lb. potash to 6 or 8 quarts water. Ex-

amine Spring and Fall for borers. Cut back half of each season's growth of dwarf trees, for three or four years."

**Creveling Grape.**—Mrs. A. R. Sprout, Lycoming Co., Pa., writes that in her locality this is not considered an untied variety. She says: "We have now fruited many of the new varieties of grapes and are not so easily pleased with new grapes, after having so long enjoyed the superior flavor of the Creveling. The vine, most seasons, requires winter protection."

**Bleeding Grape Vines.**—Craig Gilmore, McLane Co., Ill., writes that having failed to stop the bleeding of a grape vine with grafting wax, or a hot iron, he applied a mixture of flour and salt in equal proportions. This had the desired effect. He had seen this recommended in the *Agriculturist* to stop bleeding from flesh wounds, and found it good for lacerated vines.

**Keeping Grapes.**—Mr. George Barclay, of Dutchess Co., N. Y., while travelling in France, often saw the grape in an admirable state of preservation, quite out of season. He found the secret of their success in thus preserving them, consisted in coating the clusters with lime. The bunches are picked just before they are thoroughly ripe, and dipped in lime water of the consistency of thin cream. They are then hung on wires, and when dry are dipped the second time, and then hung up to remain. The lime coating keeps out air and checks any tendency to decay. When wanted for the table, dip the clusters in warm water to remove the lime.

**Inarching the Grape Vine.**—J. F. Streeter, Milwaukee Co., Wis. We doubt the success of this method. Practised in early Spring they will bleed too much for a union, and though they might unite if grafted in Summer, it is preferable to root-graft in the manner illustrated on another page.

**Grafting Wax.**—C. Olney says, mix by weight 4 parts resin, 3 parts beeswax, and 1 part tallow, by melting in an iron kettle. Pour it in cold water and work with the hands until it is of an even color.

**Shrub for a Name.**—Capt. Ely Sperry, 19th Conn. Volunteers, Fort Worth, Va.—The leaves of the shrub sent to us, appear to be *Eucynimus Japonica*, a most beautiful species, but one which will not stand our northern winters. We are gratified to know from the many letters we receive from the army that those who have taken up the sword have not forgotten about the plow, and the garden, and that they remember us.

**Seeds for a Name.**—Elizabeth Wilson, Decatur Co., Ind. The "Forbidden Fruit" is called with us Jerusalem cherry. It is very closely related to the pepper, and has the botanical name of *Solanum Pseudo-capsicum*. The other we can not recognize from the seed. It will be necessary to send the flower at the proper season. The seeds sent by S. A. Myers, Henry Co., Ohio, look as if they were a species of *Solanum*, but we can not tell from the seeds only.

**Milkweed.**—H. E. Rhoads, Montgomery Co., Ind. We do know the milkweed, and have several species very abundant here, as they are everywhere. We know of no use to which the silky fibre attached to the seeds, has been put. We learn from a Belgian horticultural journal that some experiments are to be made there, upon its culture, with a view to the use of the fibre of the bark as a substitute for cotton.

**A Fine Bouquet.**—J. J. Otto, of Rochester, N. Y., has sent us a bouquet of choice flowers, which came in fine order and graced our Exhibition tables for several days. By means of a frame made of four wire rings of different sizes, and placed one within another, the flowers were arranged so as to present a perfectly flat surface. The wire frame was entirely concealed by the beautiful *Lycepodium* which furnished the green of the bouquet.

**Plant for a Name.**—S. S. White, Mercer Co., Ill. The beautifully dried specimen you sent is *Callirhoe pedata*. It has not been long enough in cultivation to have a popular name. We used to see it growing wild in great profusion in Texas, and since it has been introduced to the gardens, it has been among our favorite plants. Sown early, it will bloom as an annual, and with care the roots may be kept over winter.

**Tuberoses.**—"Mac," Sullivan Co., N. Y. After the balls have dried, it is customary to trim off the roots before packing them away. We are glad that you have begun to give animals proper treatment while young.

### Exhibitions in Prospect.

Elsewhere we announce a Strawberry Exhibition. The display at the *Agriculturist* Office last year, was the finest one of the kind ever held in this country. So others tell us; the writer was absent in Europe at the time. With the experience of last year as a guide and the many requests for a repetition, we expect to have a still greater affair next June.—A Show of Pumpkins, Squashes and Gourds, is being planned for in Autumn. Other exhibitions of Vegetables, Fruits, Flowers, Sorghum, etc. are in contemplation, but the number, and their extent can not yet be decided upon. The increased cost of paper and other publishing items, lead us to hesitate in the matter. The prizes are a considerable item for individual enterprise, while these are but a small part of the expenses attending upon getting up and carrying through an exhibition. Still, as these displays of farm and garden products tend to excite general interest and improvement, we shall do all we can afford to this year, and more we hope, hereafter.

### Good Grape Vine Premiums.

These seem to have met a general want, judging from the tone of the many letters received. We have been able to procure a small addition of excellent vines to our own stock, so that the offer will remain open through April and probably into May. It will be noticed that a slight change in terms is made, viz. one vine for every subscriber in a club of ten instead of fifteen as announced last month. We do this in response to many requests from those who say they can get a club of ten if a vine be given for each, while they can not, at this late day, get fifteen. The unusual cold weather delayed the beginning of the distribution of vines to southern points until March 27th. They will be sent to other parts of the country as fast as the season will admit. See page 124.

This is certainly a cheap and convenient way of obtaining a good vine as a beginning. Where several go to one place those receiving them can, by choosing part of both kinds, exchange cuttings or layers hereafter.

### A Special Request to Advertisers.

Every day almost, we receive advertisements from distant parties who are wholly unknown to us personally or by reputation. We must insist upon having references from such persons, or some kind of evidence that they are reliable men, who will do what they propose to do in their business cards, or we can not insert their advertisements at any price. The fact that an advertiser has been a subscriber for several years, does not necessarily make us acquainted with his mode of doing business, though he may know all about ours. The above may seem a hard rule, but it is necessary, for we desire to insert nothing either in our reading or business columns which will lead our readers into an unprofitable investment. It is not enough that a man pays us for space occupied. If for example he advertises trees and plants very low, we want to know first whether he will certainly send them of the quality and at the price he offers, and what is still more important, will they be true to name. The very worst cheating, is to sell trees and plants, which after the expense of getting and years of care turn out to be untrue. The same of seeds, etc.

We are obliged to return many advertisements sent in with the money, simply because we do not know the parties offering them. The above request is not only for the protection of our readers, but also to give value to the business cards of good reliable men. If any object to the requirements, we shall very cheerfully do without the favor of their advertisements.

### A Good Time to Buy.

The reader will find a large amount of interesting information on the closing pages of this paper. We have this month allowed business men to have more than their usual space. The advertisements taken as a whole are of an excellent class; a large number from unknown persons, and from known unreliable parties have been refused. While almost everything else has advanced, it will be seen that trees, plants, many seeds and some agricultural implements are offered more abundantly and cheaper than ever before. This is a good time to lay in a supply. It will pay to look through the whole of the advertisements, and see what is for sale, by whom and at what prices. It will cost but little to send for the Circulars and catalogues offered, and thus get acquainted with the dealers. We ask as a favor, that those writing to advertisers will mention that they saw their advertisements in this Journal. We like to have them know who are the wide awake, enterprising readers of the *Agriculturist*, and it will please them also to learn where their business cards are seen by the largest class of readers. See above.

### Seed Distribution—Special Notice

The distribution of seeds must soon close, for want of material. Never before has there been such a call for them, though we announced at first that, owing to several circumstances, the amount provided was unusually small. Just as we closed up the last paper, the envelopes commenced pouring in by thousands with every mail. Two men have done little else, from morning to night for a month, but simply open letters. We have been forced to reduce the seed measures, and send the smallest possible amount to each, or disappoint thousands of others. Every parcel, however, contained enough seed of the annuals to yield a fair supply of seed for another year. As long as we have any seeds left, they will be cheerfully supplied. Any one sending for them hereafter should mark a dozen numbers, and we will select the first numbers down the list, of which we have seed remaining. Of the *Mammoth Millet Seed*, owing to accident, we failed to get as many pounds as we hoped to get bushels, and so, instead of half-ounce parcels, we were compelled to send only a few seeds, as almost everybody seemed to want it. Every seed grown will produce thousands. In several instances the envelopes come with the slip of numbers omitted, or with defective address. This will account for some parcels not reaching the persons sending for them. The mail may have been at fault in other instances.

### Reports on the State of the Crops.

It is of the highest importance to farmers and others, that there should be reliable information as to the condition and prospects of the Growing Crops, as the harvest season approaches, and soon after harvest, of the yield throughout the country, so that the producers may have some basis for estimating the probable prices. Impressed with this fact, we last season went to a good deal of expense and trouble to collect and publish reliable returns, monthly. It is not too much to say that the reports thus given in the *American Agriculturist* were the best, and most complete yet attempted in this country. But the labor and expenses are so great that it ought not to be left to individual enterprise, though we should continue the work if necessary. Our new Agricultural Bureau at Washington should undertake the work on an extensive scale. We have had some correspondence on the subject, and recently visited Washington to press the matter upon the attention of the Agricultural Bureau, but we found the Commissioner and his associates too busy at the closing of the session of Congress to discuss the details at length. We are happy to be able to announce however, that the matter will be taken hold of. In answer to our request for an official announcement, to be published, we have the following:

DEPARTMENT OF AGRICULTURE.  
WASHINGTON, D. C., March 16, 1863.

To the Editor of the *American Agriculturist*.

DEAR SIR:—In reply to yours of the 14th, I am directed to say that the Commissioner of Agriculture is now prepared to carry out the intended plan of collecting such Agricultural Statistics, for monthly publication, as shall show the actual and prospective condition of the various crops of the country during the coming season.

Very respectfully yours,  
JAMES S. GRINNELL,  
Chief of Statistical Bureau.

### Premium List Still Open.—Changes.

For want of room we omit the list of general premiums. (They are given on page 88 of March *Agriculturist*.) The good articles there offered are worth working for, and can still be secured by forming new clubs of subscribers, or by the completion of clubs partly made up. Owing to the advance in cost, the terms will be changed after April 1st, for the following articles:

No. 1.—*Books*. Same terms as heretofore, in accordance with the prices of books as given on page 127, a few of which are advanced in price.

No. 5.—*Willcox & Gibbs' Sewing Machine*—advanced to \$40 (always including Hemmer and Feller.) Terms of Premium: 79 subscribers at \$1 each, or 112 at 80 cents. This machine is coming more and more into favor.

No. 6.—*Aneroid Barometers* advanced to \$8.50. Terms of Premium: 25 Subscribers at \$1, or 57 at 80 cents.

No. 7.—*The Aquarius*. The New Premium Terms will be: 25 subscribers at \$1 each, or 54 at 80 cents.

Nos. 13 to 18.—*Back Volumes*. The unbound numbers are intended in these Premiums.

*Melodeons*.—No. 8, 5 octave: new price \$80 (133 names at \$1, or 252 at 80 cents).—No. 9, 4½ octave: new price \$65 (112 names at \$1, or 197 at 80 cents).—No. 10, 4 octave: new price \$55 (110 names at \$1, or 163 names at 80 cents).—All other premiums will remain the same as last month, at least until May 1st.

### The Prize Tobacco Book.

We have just coming from the press, a very complete, practical work on the Culture of Tobacco. It has been delayed a little by two circumstances: First, the Committee had eighty-five Essays to look over, instead of the expected fifteen or twenty. Second, we concluded to make it 48 pages, instead of 32 as at first intended. The price will not be increased, however, but it will be sent, post-paid, for 25 cents. The work contains 48 large pages of plain, practical directions given by thirteen experienced cultivators, residing in different parts of the country. They tell, in a plain, straight-forward way, what is to be done, from the selection of the seed to the curing of the crop. All the details are given. What is omitted by one is supplied by another—some being more explicit on certain points than others.

### A Few of the Humbugs.

In previous volumes we have shown up so many of the various humbugs, that our older readers scarcely need any further caution. But a few hints will perhaps be useful to the thirty or forty thousand newer subscribers, who did not see the former exposures. In the February *Agriculturist*, page 36, we took occasion to forewarn the reader against sundry wonderful discoveries in the seed and plant line that would come out in advertisement and circulars as the planting season approached. The March number had just gone to press, when we began to receive from the distant West (not from near home) copies of circulars sent out from Utica, N. Y., offering a new 'Oriental Sugar Plant,' with a very specious statement of its wonderful properties.—Sugar beet seed can be had at any agricultural store for a tenth part of the price asked for it by this Utica advertiser.

A good many advertise for agents at \$50, \$60, and \$75 a month, and "all expenses paid." When replied to, they forward plausible circulars advising you to send them certain sums of money for sample Sewing Machines, or other articles, on which they offer great profits if you undertake the sale of them. If you ever get any return for the money, which is seldom the case, you are told that if you sell a certain amount you can make \$60, \$70, or more.

Certain parties in this city and elsewhere send out one, two, or three copies of a professedly agricultural journal, and offer great inducements to postmasters and others to get up clubs. They get many to send in money, and sometimes pay the premiums, such as they are, but the paper soon stops, and the duped subscribers can get nothing more for their money, and no amount of writing will draw out a word of reply from the nominal publishers. They write to a friend in the city to call and inquire about it, but the reputed publisher is always out of town, or sick—at least he can never be found.

The old lottery scheme is still in vogue. The latest operation is by a party nominally in this city, and not in a back-woods one-house town in New-Hampshire or Vermont, the locality of those we exposed a year or two since. Early in February, Mr. Wm. R. Shipman, of South Woodstock, Vt., received a letter containing a grand announcement of prizes to be drawn in the "Western Ari Union Association, Music Hall, London, Indiana," under the management of "Harris & Co.," the drawing to take place February 20, 1863. There was enclosed a ticket numbered 1689. Mr. Shipman, being a sensible man, threw the whole into the fire, and thought no more of it until he received the following letter from New-York, covering a "list of numbers drawing prizes."

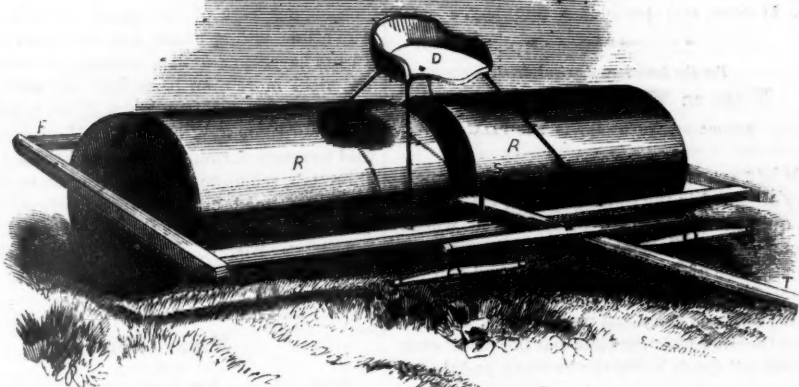
"No. 12 Merchants' Exchange, Feb. 20, 1863.  
Wm. R. Shipman,

Dear Sir:—You will see by the list that No. 1689 drew a prize of One Hundred Dollars. Now, I wish you to obtain it, and for this reason; should you obtain the prize, and let it be known, and also inform people whom to apply to for tickets, I should be able to sell many more in your vicinity at the next drawing. If you will aid me in this way, I will assist you to obtain the prize, and thus benefit us both. To have your ticket good you must hold the Managers' Certificate. To procure this, send me a letter, dated on the day of the drawing, and enclose Five Dollars, the price of the ticket. As soon as received, I will go to the Managers' Office, and open the letter in their presence, saying, "This letter was mislaid in the P. O., but the money and date is all right." They, not knowing that your ticket drew a prize, will take the money and send certificate. Send immediately, and do not show this to any one.

Truly Yours, C. E. HOWARD."

Hundreds, perhaps thousands of others were each notified that No. 1689 had drawn a prize for them. Several copies have been forwarded to us. Yet many unsuspecting believers in lotteries have doubtless sent in their \$5 each, never to hear from it again. "C. E. Howard," offered to lie for them, and will be equally ready to lie to them. Mr. Shipman and others have betrayed the confidence of the ingenious Howard by sending his letters to us. Wonder what he will do about it.





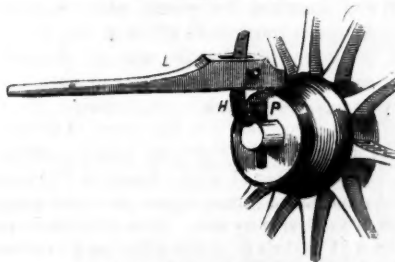
A Home-made Field Roller.

The above engraving represents a cheap and efficient field roller, of which a sketch and description were furnished for the *Agriculturist* by R. S. Cramer, Mercer Co., Ill. To make it, saw off two sections from a log 20 to 30 inches in diameter—the larger the better—two or three inches longer than wanted when the rollers are finished. Have ready four gudgeons, two of them 12 inches long, the other two 10 inches long, all made of one inch square iron. Round one end of two of them four inches, and one end of the others two inches. Bevel the square ends a little, so that they will drive readily, but do not draw them tapering. Find the centers on the end of the logs and bore in with an inch auger if the wood is hard, if soft  $\frac{3}{4}$  inch, to receive the gudgeons. Drive one long gudgeon, and one short one into each roller, leaving the rounded part to project. Take a thin strip of board, bore an inch hole in one end, and bore a gimlet hole as many inches from the center of that hole as is contained in half the diameter of the roller. Put the board on the gudgeon, insert a scratch-awl in the gimlet hole, and scribe the circumference of the roller. With an ax and draw-shave, chamfer the ends down to the scribe; then stand behind the log, and with an ax hew the middle down, using a straight edge to show when it is level with the ends.—Finish off with draw-shave and jack-plane. To get the ends of the roller square, take the two pieces of scantling that are intended for the end pieces of the frame, bore them where the gudgeons are to work, slip them on the gudgeons and prop them up so that the roller will revolve on the gudgeons freely. While another turns the roller, hold a scratch-awl to mark where the roller is to be sawed off. Cut it with a cross-cut saw, turning the roller occasionally, so as to follow the scribe. Leave a projection of half an inch around the long gudgeon, to keep the outer surface of the end of the roller from rubbing against the frame.

To make the frame, use  $3\frac{1}{2}$  or 4 inch square scantling, of hard wood. Make inch-and-a-half mortises in the short pieces, tenons on the long ones to fit, and fasten with draw-bore pins, (keys work out). The tongue answers for the middle cross piece. It should be four inches square where the gudgeons enter—dress away a little on both sides of the hole (for the gudgeons) to prevent friction with the roller. The tongue must be hinged to the back piece of the frame in such a manner that the top of the

tongue will be nearly as low as the bottom of the piece to which it is hinged. To make the hinges, take a heavy piece of strap iron, bend the end of it around a  $\frac{1}{2}$  bolt-rod, the ends of which shall project an inch beyond the strap, and weld it. Bolt this to the tongue and secure it to the back piece with eye bolts that fit on the projecting ends of the bolt-rod. The tongue is then laid on top of the front piece of the frame, it being notched down two inches, and a long staple made of half-inch iron goes over the tongue through the piece the tongue lies on. This staple is not to hold the tongue to the frame, but should be long enough to allow the tongue to vibrate up and down six inches, but should fit neatly sideways. The object of the vibration is to allow the roller to adapt itself to the irregularities of the surface.

The rollers should be four inches shorter than the width of corn rows, and then it will be just right for rolling two rows of corn at a time. This implement might be introduced with great advantage upon many farms. It is needed for pressing down clods left by the plow, pressing the soil into contact with the seed, leveling mowing ground for the scythe, and compacting light land. It should not be used on moist land, at a time when the ground is so wet as to pack.



A Linch-Pin Extractor.

A model of the implement represented above was forwarded to the *Agriculturist* by Mr. D. C. Voorhees, Somerset Co., N. J., who says it is very convenient for drawing the linch-pin from carts or heavy wagons, particularly when they are held fast by the dried tar or gum from oil used in greasing the axles. It consists of a lever, *l*, about four feet long. A narrow iron rod, *h*, turned to form a hook, is fastened by a pin in an opening about six inches from the end of the lever. To draw a linch-pin, place one end of the lever on the hub of the wheel, let the hook catch under the head of the pin, *p*, raise the other end of the lever, and the linch-pin is readily extracted.

## Ergot or Spurred Rye.

Some cases of poisoning which occurred in Brooklyn, N. Y., having been attributed to the use of ergotized or diseased rye as a substitute for coffee, there has naturally been considerable uneasiness among those who are accustomed to use "Rye Coffee." We give the readers of the *Agriculturist* an engraving of the ergot, which will enable them to recognize the dangerous substance and avoid it. On a head of rye will sometimes be seen some blackish spurs, about

half an inch long, in place of the kernels. Only one or two grains in the head may be affected in this way, or it may be the case with every one. Though it bears no resemblance to the grain of rye, it is really one, much changed by the attack of a minute microscopic fungus or mold. This attacks the grain when very young, and causes it to finally present the appearance shown in the engraving, which represents the ergot as it appears on the head, and also two separate grains. The ergot is often nearly an inch long, and having somewhat the shape of a cock's spur, the name *spurred rye* has been given to it. It has a blackish purple color, and although no odor is noticeable in a single grain, when a quantity is together, it has a very unpleasant smell. When the grain is thus diseased, it not only takes on an unnatural shape and appearance, but its chemical character and its properties are also altered; the grain no longer contains starch, but in its place is found a large quantity (over 30 per cent.) of a peculiar oil, and instead of being a nutritious food, it is a powerful poison. In some parts of Europe, where rye is much more extensively used for food than with us, fearful epidemics have been caused by ergot being mixed with the food. Serious convulsions, loss of sight, gangrene, or mortification of the limbs, and death, have resulted from its use. The presence of ergot is not traced to any peculiarity of soil or season; sometimes it is very abundant, and at others the grain is entirely free from it. Nor is it confined to rye, for we have seen several grasses similarly affected, and it is said to have been found in wheat, though we suspect that the latter rarely occurs. From the well known poisonous character of ergot, it will be seen that it is the duty of those who prepare "rye coffee" for sale, to carefully inspect the grain they make use of; those who prepare it in their own families will be in no danger of poisoning, if the ergot, which is so unlike rye, and so easily detected, be carefully picked out.



### Seeding Down Lands to Grass.

To best prepare a field for seeding down, attention should first be given to draining. If it is naturally cold and unproductive, or if water lodges in any portions of it, ditches should at once be opened through it, and laid with good underdrains. Surface ditches are apt to get filled, and coarse grasses and weeds grow up in them, which interfere with mowing and prevent the flow of water.—Draining finished, spread the manure and put in the plow. Do both of these works thoroughly. On poor soils manure is important to give the grass a good "catch," and to supply it with food afterward. Deep plowing and a faithful harrowing, are needful to bring the land into fine tilth and to enable the roots of the grass to spread out and penetrate deep where they will flourish in spite of drouth.

It is in dispute whether, in seeding down, a few or many varieties of grass seed should be used. For a pasture, it is obvious that several sorts are preferable to any one. One sort gives us an early growth, but dries up in mid-summer. Another starts later, but holds on well. Others grow best in Autumn; some grow best on light soils, others on heavy; some are fibrous-rooted, and grow best near the surface; others are tap-rooted and draw their food from below. Animals crave a variety of grasses, and thrive best on such a diet. The English make the combination of grasses more of a study than we do. They often sow six or eight kinds of seed, and sometimes more. An experienced farmer of our acquaintance favors only a moderate number, as follows: For seeding an acre, 10 pounds of red clover, 5 pounds white clover, one peck of Timothy, and half a bushel of red-top. He salts this mixture down with two bushels of plaster. Mr. A. B. Dickinson recommends, 6 quarts Timothy, 4 of red-top, 2 of blue-grass, 2 of white Holland clover, and 4 of red clover. When several kinds are sown, that best suited to the particular soil, will generally run the others out, and in time mainly occupy the surface.

Other questions relate to the time of sowing, and whether the grass seed should be sown by itself or with another crop. It is quite a favorite practice to seed down in early Autumn, say September, and usually with rye or winter wheat. The argument for this is, that the preparation of the land for wheat or rye is just what it needs to make the grass catch well and grow well; and that by getting a good start in Autumn, it makes a stronger growth the next season than it would if the seeding were deferred until the Spring. But sometimes, the preceding crop (say potatoes), is a late one, and can not be got off until October; and sometimes other farm work presses so hard in September that stocking lands to grass can not be attended to. In such cases, spring seeding must be adopted. Get the ground in order as early as possible, and sow with oats, barley, or spring wheat, making the grain crop rather light, so as to give the grass all possible chance. The grain crop will shade the grass plants until they get well started, and then it will be removed in time for the grass to get strong before Winter sets in. If the soil is cold and backward in Spring, it is advisable to plow it late in the preceding Fall: it can then be got ready quickly in Spring for seeding. Some of the best farmers prefer sowing grass seed without any grain crop. One crop at a time, they say, is enough. The grain is a coarser and more exhausting crop, it interferes with the growth of the tender grass, and steals away its food. One of the chief objections to

sowing grass seed alone is, that weeds are apt to get the start of the grass. When grass seed is put in alone, the ground should be cleaned and tilled with special care, and a large amount of seed be sown, so as to occupy the whole surface at once, and produce a fine hay.

For the American Agriculturist.

### Notes on Wisconsin Farming.

SOWING SPRING WHEAT IN THE FALL.

Of late years, many of our Wisconsin farmers have observed in the Spring, on Fife wheat stubble, quite a thick growth of self-sowed wheat. In one case, I knew as good a crop produced from a piece of Fife stubble, self-sowed and uncultivated, as was raised on some of the neighboring farms in the usual way. These observations, together with the facts that the wheat crop of 1861 fell much below the average, and that of 1862 was nearly a failure, have led many thinking farmers to make some experiments. I have conversed with many such, and all seem to base them on the same general grounds, viz.: 1st, that the wheat crop of 1860 was quite double the average of previous years, and the seed for that crop was gotten in from two to four weeks earlier than in any other season for ten years before. The inference was, to get the seed in early would increase the crop. 2d, that the Fife wheat will retain its vitality and lay in the ground all Winter, and when the ground is plentifully covered with snow, will make quite a good growth under it. All, too, seemed to have the idea, that it should be sown so late in Autumn that it will not sprout before the ground freezes permanently. Of course it is difficult to determine just when it is going to freeze up and continue frozen. A farmer in Waterford, Racine Co., sowed ten acres, I think, late in November, but it remained open with alternate freezings so long after, that the wheat sprouted before it froze up for good, and the crop was a failure. One of your subscribers in Vernon, Waukesha Co., sowed a field late, and in three days after, the ground froze hard. After the snow went off in the Spring, the field was fairly green with the growing wheat. Before the ground was thawed more than one or two inches, there occurred a beating storm of rain, which washed out and drowned the young plants in places. Counting out those spots where it was destroyed, the piece yielded at the rate of 40 bushels per acre, of a very fine quality of wheat. In several cases, to which I am knowing, this experiment succeeded well last year. Another of your subscribers in Newport, Lake Co., Illinois, sowed September 15, 1861, a bushel of Fife wheat and a bushel of winter wheat on equal quantities of land side by side. The Fife wheat produced 11 bushels of as fine wheat as I ever saw. The bran was much whiter and thinner than spring-sowed of that variety. The winter wheat produced 12 bushels of good quality. Last September he sowed several acres of Fife wheat of spring-sowed, his opinion being, it will produce as good a crop as that seed would, which was the product of that he sowed the previous Fall. But in order to test the matter, he has sowed a bushel of wheat raised from that put in the previous Fall, and a bushel from spring-sowed, on equal quantities of land side by side. I hope after he has thoroughly tested the matter he will give your readers the result. Hundreds of bushels of Fife wheat were sown last Fall at different dates. How it will succeed, is yet a matter of some doubt: I will take pains to inform myself in proper time and let

you know. A large breadth of winter wheat was sown last Fall, I should judge four times as much as was sown the year previous. The reason is, winter wheat for the last two years has done exceedingly well, yielding from 20 to 40 bushels per acre of fine quality; while at the same time spring wheat has done very poorly. In the harvest of 1861 a majority of fields did not yield more than 10 bushels per acre. Bad seasons and the chinch bug will not wholly account for these light crops. Half of it can be laid to quack farming. Here and there I find a thorough, scientific farmer, who never fails of raising a good crop of spring wheat. These farmers invariably take the *Agriculturist*.  
Racine Co., Wis. R. F. ROBERTS.

For the American Agriculturist.

### Market Fairs.

With all that has been written in favor of these institutions, and the efforts that have been made to establish them, they are still a great desideratum in the farming districts. There can be no doubt that our farmers are losing millions of dollars every year for the want of them. In this respect, the British farmer has one of his chief advantages over us. It is not so much that he has cheaper labor, that his living expenses are less, or that he follows his business more closely, that he prospers, but that he has a steady reliable market near home for every thing that he produces. This gives him a great advantage over us, notwithstanding he has to pay a rent of from ten to twenty dollars an acre for his farm and much heavier taxes than ours. Every farming district in England has its weekly market. If a farmer has fat cattle or milch cows to dispose of, they are driven a few miles to the Market Fair and sold nearly as well as he could sell them in the London market, without the large expense of transportation. If a butcher wants cattle he goes to the fairs to buy. Here, there is a middleman, a drover, between the butcher and the farmer, making his profit, often a very large one, which would otherwise go to the farmer. If the English farmer wants store cattle or seeds, he can find just what he wants at the expense of a morning ride. Here, if a farmer wants a stock of cows he has either to go to a distant market, losing traveling expenses and time, or to take his own conveyance and spend a week perhaps, in picking up what he wants, in his own or the neighboring towns, at such prices as he is obliged to pay. There is no steadiness to the prices in buying or selling, except in the large market towns. The regulation of prices is very much in the hands of middlemen.

But few efforts have been made to establish such fairs in this country, notwithstanding their manifest advantages. It takes time to change from a system in which we have been educated, even though that system be a bad one. There is nothing in our circumstances to forbid the establishment of these fairs and the full realization of their benefits. They began as religious celebrations many centuries ago. We have nothing, except our Annual Agricultural Exhibitions, upon which such market fairs could be grafted, and these are quite too far apart to answer the purpose. The place, however, where such exhibitions are held, generally the city or village in the trade center of a county, would be a good starting point for these fairs. It not unfrequently happens now, that a sale of stock and other products occurs at the close of the annual exhibition. More or less exchange



of products always takes place. Where a Society has grounds and permanent stalls and buildings, all the conveniences are provided that would be needed for the accommodation of market fairs. There would need to be some concert of action to get them started, and generally the men most interested in the County Society are the right ones to project the market fairs and make them successful. They might at first be held quarterly or monthly, and then more frequently as they became better known. Once established they would take care of themselves, as it would be for the personal interest of every farmer in the district to buy and sell in that market. This matter should be discussed at our farmers' clubs, and annual agricultural meetings.

CONNECTICUT.

### About Liming Land.

The recent letters received at the office of the *American Agriculturist* have contained more notes and queries on the subject of liming land than on any other topic save that of growing tobacco, which from some cause seems to be just now "all the rage," throughout the country. Without attempting to exhaust the subject of lime, we offer a few hints. The precise action or use of lime is not a settled question. Theoretical agricultural chemists have claimed that, since lime is found in the ashes of most crops, it is one of the essential constituents, and must therefore be found in the soil, or be applied, if not already there, in order to supply the elements of the plants. But this does not explain its action. A single illustration is conclusive on that question. The farm on which we were brought up, though a diluvial or loam soil on the surface, is literally filled with limestones, and rests on limestone rocks which often protrude through the surface. The well and spring water is so saturated with lime as to yield a thick coat of it upon the tea-kettle in a brief time. Yet burned lime, and plaster (sulphate of lime,) have always been favorite fertilizers, because their application has proved to be profitable. Many thousands of bushels of lime have been burned from stones gathered upon the surface, and the burned lime has been applied right among the unburned stones with excellent results. The water flowing from the soil is abundantly saturated with lime in a soluble condition, so that there can be no possible lack of this element for the use of the plants. On this point it may also be added, that in the analysis of many samples of water from wells and springs in all kinds and qualities of soils, and from various sections of the country, we have never yet found a specimen of water that did not contain lime enough to meet the wants of any crop.

With the above and other facts in view, we have come to attribute the chief utility of burned lime to its action as an alkaline reagent to neutralize the acidity or sourness of the soil, and to promote the decomposition of organic or vegetable matters, and fit them to become food for the growing plants.\* To a limited de-

gree, also, lime acts as a cement to harden and compact light sandy soils.

The burning of limestone simply drives off its carbonic acid, and reduces it to a fine or powdered condition, so that it is easily mingled with the soil. Simply grinding limestone would not remove its acid and render it caustic; this is only accomplished by great heat.

No rule can be given for judging as to whether any particular soil will be benefitted by lime. Experience has proved that it is often useful both on clays, and on very sandy loams, where there is but a very limited supply of lime naturally in the soil; and that it is equally beneficial on soils half made up of limestone pebbles, shells, and organic petrifications which are composed chiefly of lime. Actual trials are the only sure tests of its utility or non-utility upon any particular soil. With the above theory of its action as an alkaline reagent we may generally conclude:

1. That on new soils, where there is more or less of undecomposed vegetable matter, and some sourness, an application of lime will hasten the preparation of the natural manure or vegetable material, and neutralize the acidity.

2. On cold soils or those which are not naturally thoroughly drained, the water saturating the soil for the whole or the larger part of the year shuts out access of air. The vegetable matters remain in an undecomposed or in a semi-decomposed condition. An application of caustic (fresh-slacked) lime will dissolve and hasten the decomposition of the organic materials, preparing their elements to enter and nourish the plants.

3. This effect will be most marked upon recently drained swamps, and fresh and salt water marshes. Owing to the great amount of vegetable matters, it is often necessary to make a light application at first, or so much of the natural manure will be prepared as to induce too rank a growth of straw or stalks. For potatoes, or for corn which is a gross feeder, there is less danger of an over-dose, than when grass-seed or the grain crops are sown.

4. On dry, sandy soils there is often too little moisture to decompose the organic materials, and an application of lime is frequently useful. As above stated, lime acts mechanically, cements the soil, and causes it to retain moisture.

5. On heavy clay soils, lime is often beneficial for the same reason as in (2) above, though a large application sometimes cements the clay, and is deleterious.

*Mode of Using Lime.*—The best form of application is, to sow fresh slaked lime, in the finest condition possible, and immediately mix it thoroughly with the soil by harrowing and plowing. Some spread it upon the surface, and plow it in. The better way is to first plow the land, then sow the lime and immediately harrow it in well. When spread in heaps and left for days or weeks, it absorbs carbonic acid from the atmosphere, and is then far less active upon the vegetable material within the soil. When fresh slaked with water, it is an almost impalpable powder, and can be much more thoroughly scattered and diffused through the soil. If it lay in heaps upon the field, or is air-slacked, it becomes carbonated, and though still friable or in a powdered condition, the particles are a thousand times less minute. Sown as a top-dressing, it acts upon a little of the surface, and some of it is washed into the soil, and we have seen good results from this practice, but the effect is far less than when sown fresh and immediately worked into the soil.

Moistening seed and drying it off with lime, just before sowing or planting, often produces good results. We suppose the little lime thus introduced, sweetens a small portion of the soil, and prepares a little of the organic matter immediately around the seed, fitting it to nourish and give a vigorous start to the young plant. A larger application in the hill, or diffused through the whole soil, would of course prepare more of it for the extending roots.

Lime may be applied at the time of putting in seed, or months before. In the latter case it decomposes the organic matters, but these are mainly retained by the soil in store for the roots of the coming crop. Theory and observation indicate, that the time of application is not material, though we are most likely to diffuse it more thoroughly and evenly through the soil, if it be applied when the seed-bed is being prepared. The additional harrowing then given, aids in mixing it evenly through the soil, which we consider a great point to be aimed at.

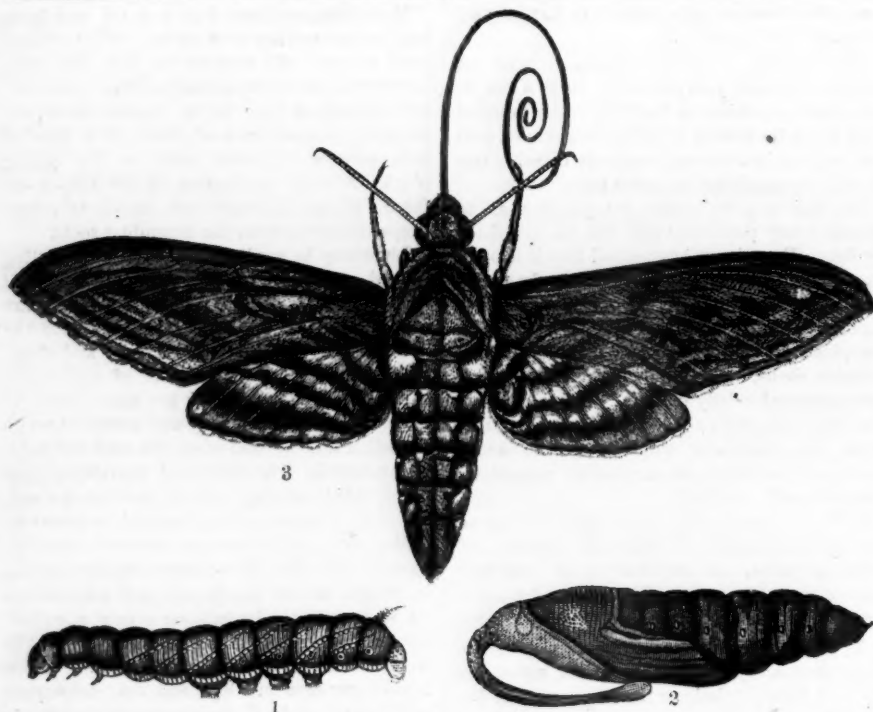
Moderate applications, at frequent intervals, seem to be preferable to heavy coatings at long intervals. A cold, heavy, sour soil may receive 30, 50, or even 100 bushels per acre at one time; but on lighter soils 15 to 25 bushels are usually an abundant supply. To apply 50 or more bushels per acre on a light soil, may decompose and use up nearly all the organic matters in the first year, and render it sterile; while 15 bushels may prepare enough organic material to benefit the first crop; and the roots and leaves of that crop will add more organic matter for a succeeding crop. This may explain why lime has after a time been condemned where it was at first in great favor. We know one instance where the soil of a neighborhood was light and sandy. Lime was hauled 30 miles by teams, and very moderately applied—10 to 20 bushels per acre. The opening of a railway reduced the cost to 8 cents per bushel, and one farmer applied 500 bushels to five acres at once, expecting great results. The first crop was a good one, but the field was ruined until a heavy coat of manure was applied, to restore organic matter.

Large applications of lime on a heavy soil, and not thoroughly diffused through it, as when it is spread on the surface and plowed under, often settles in a layer, and forms a compact bed through which the roots will not penetrate freely. We have seen many such instances, and nothing would grow well until a plow was run below to throw it upon the surface, and then the harrow used freely to break up and commingle the hard layer with the rest of the soil.

Oyster-shell lime is by some thought to be preferable to stone lime, because the former contains more phosphoric acid; but it slakes much less finely, and is therefore less intimately mixed with the soil. On this account we should prefer the stone lime, and we believe the general experience is in this direction. Gas lime is similarly objectionable, and until after considerable exposure to the action of air in or upon the soil, it is poisonous to plants. (The use of gas lime is fully described on page 75 of Volume XX, for 1861.)

The above general hints indicate answers to a multitude of questions addressed to us. Any other specific questions we shall be happy to reply to, when practicable. Lime is perhaps the most important fertilizer we have, aside from barn-yard manure. It is useful on a large proportion of all the farms in the country, and may well be tried, where it has not been used. Its effects, the best modes of application, and the rationale of its operation, should be carefully observed and studied by cultivators generally.

\* One of the facts of chemistry is, that a compound body will be more readily decomposed if there is present another compound or element having a strong affinity for one of the results of the decomposition. Thus: all vegetable matters, in decomposing, produce a considerable amount of carbonic acid, and this has a strong affinity for lime. Hence the presence of lime in a soil hastens the destruction of dead grass roots and other organic materials, and sets the elements at liberty to act as direct or indirect nourishment to the growing crops.



The Potato or Tobacco Worm.

The above engraving represents one of our most voracious and destructive insects. It is shown in its different stages of larva, chrysalis, and imago, or moth. The larva or worm, fig. 1, is a great pest upon potato and tomato vines, and upon tobacco. It is especially injurious to the latter crop, as it perforates the leaves and renders them ragged and worthless. The worm as it comes from the egg is so small as to be unobserved, but having an enormous appetite, it devours rapidly, and soon grows to about twice the size represented in the cut. When not feeding, it lifts up the head and fore part of the body, and remains apparently lifeless. From its resemblance in this position to the Egyptian Sphinx, Linnaeus gave the name *Sphinx* to the genus. The larva, fig. 1, is of light green color, with whitish oblique stripes, and has a horn upon the rear end of the body. Though it is repulsive in appearance, it is perfectly harmless to touch, and may be picked off with the hands without fear. After it has reached its full size, it leaves the scene of its ravages and goes into the earth, where it throws off its skin and becomes a brown colored chrysalis, fig. 2. The curious projection, like a handle, is a sheath which holds the tongue of the future moth. The moth or perfect insect, is represented in the engraving, fig. 3, of the natural size. It is of a gray color, with orange colored spots on each side of the body. As there are five of these spots on each side, it is called *Sphinx quinquemaculatus*, or five-spotted sphinx. The moths may be seen towards night flitting about the flowers from which they suck the juices by means of their remarkable tongue, which is five or six inches long. When the tongue is not in use, it is closely coiled up and hidden between the two feelers. From the manner of their flight and feeding they are frequently mistaken for humming birds, and are called "humming bird moths," and "hornblowers." The moths should always be destroyed if possible; by so doing we prevent the production of several hundreds of most destructive worms. Naturalists make one or two other species, which closely resem-

ble the five-spotted moth, and are only distinguished by characters which would not be noticed except by the entomologist. [The illustrations above were in part re-sketches and engraved from figures in Harris' valuable work on Insects, referred to in our March No., p. 71.]

#### Tobacco Culture.\*

PRIZE ESSAY—BY JUDSON POPENOE, MONTGOMERY CO., O.

I COMMENCED the cultivation of tobacco about fifteen years ago; I therefore write from experience, and shall try to give that experience, in a short and plain way.

**VARIETIES.**—I have cultivated various kinds of tobacco, but have come to the conclusion that what we call the Ohio seed-leaf is the best and most profitable kind for general cultivation. There are other kinds of tobacco that sometimes are profitable, and do well, but most of these do not cure out so well, nor color so evenly, nor are they so fine and salable as the seed-leaf. The Havana tobacco is too small and has not the fine flavor of the imported. The Connecticut seed-leaf I believe to be identical with our Ohio seed-leaf; the difference in the climate may make a slight variation in the quality, but we plant the Connecticut seed-leaf here in Ohio, and I don't think they can be told apart. The most of the tobacco raised in this district is the Seed-leaf, which is strong evidence that it is the best and most profitable to raise here.

**SEED.**—At topping-time a few of the most thrifty stalks should be left to grow without topping, for seed. When the crop is cut, let the seed-stalks stand, stripping off the leaves and suckers. As soon as the seed-pods are black, the seed is matured; then cut off the seed-heads below the forks of the plant, and hang them in a dry place, out of the reach of mice, to cure. At leisure time, during the Winter, strip the seed-pods from off the stalk, rub them in the hands until the seed is rubbed out, sift through a fine sifter, put in a dry place, secure from vermin of all kinds, and it is ready to sow. I have sowed seed six years

\* To our great surprise, over eighty persons sent in essays on Tobacco Culture, in response to our Premium offer. Of these 15 were in German. One of the essays was written by a lady. They were handed over to a competent Committee of three, two of whom were engaged nearly two weeks in examining the manuscripts. They found several very fine essays—some of them excellent specimens of skillful use of the pen; others were rather historical; others were complete and very excellent on some points, but did not contain information on all points. The best one, perhaps, on the culture (by Mr. Schneider), had too little practical information on the important matter of curing and packing. The Committee felt constrained to adhere to the terms of the offer, and select the one discussing all points "from securing seed to curing and marketing the crop." Taking all things into consideration, they finally awarded the First Prize of \$15, to Mr. Popenoe, as above: The Second Prize of \$10, to Mr. A. B. Foster, Crawford Co., Wis. The Third Prize of \$5, was so nearly balanced between Messrs. Christian Schneider of Madison Co., Ill., and Oliver T. Bishop and Wm. H. White, of Hartford Co., Conn., that the Committee could not award it to any one of the three; so they decided to recommend the Publisher to increase the amount offered, and pay a Premium of \$5 to each of these gentlemen, which was cheerfully acceded to. All these five essays, and a number of others, are published in book form as noticed on another page.]

old which grew as well as new seed. I think it is a good plan to raise seed enough at any time to sow for ten years, as it is thought to deteriorate by constant raising without changing. If seed snaps or pops when it is thrown on a hot stove, it will grow.

**PREPARING SEED BEDS.**—There are two plans of preparing beds for sowing seed; the first and best, is to spade or plow a bed in rich, dry ground, with a southern exposure; the south side of a barn is a good place, as the reflection helps to warm the ground. Where you have tobacco stalks, as you make a furrow with the plow or spade fill one third full with the stalks and turn the next furrow over them, and so continue until the bed is broken up. The stalks hold moisture, make the bed warm, and help to drain it. Take well-rotted hog manure and spread over the bed to the depth of about two inches, then harrow or rake until the manure is thoroughly mixed with the surface of the bed, and all is well pulverized and as fine as garden mold. For a bed one rod wide and four rods long, take two common-sized table-spoonfuls (as much as will lie on conveniently) of seed and mix well with four quarts of ashes, or slacked lime, and sow broadcast; the ashes will enable the seed to be sowed evenly; then take a hand-roller and roll the bed evenly, or place a board on one end of the bed, walk on it to press the ground to the seed, move it over, and repeat this until the bed is all pressed over. Another plan is to burn a large brush-heap in a clearing, or on any new ground, in the evening; in the morning dig the ground up with the ashes on; while warm, rake the bed fine and sow the seed as above directed. Very little weeding is required where the ground is burned, as the fire destroys the weed and grass-seeds.

If the weather is dry, the plants will need watering after they are sprouted, (which will be in about three weeks); in fact, the surface of the bed should be kept constantly moist; the beds should be kept clear of weeds; do not let the weeds get a start of your plants, or they will soon choke them out. If the plants grow well and evenly, the above-sized bed will plant four or five acres, but it is always safe to have two or three such beds, to guard against a failure, and to supply your neighbors. The usual time to sow is from the middle of March to the tenth of April, or as soon as the ground admits of working in the Spring. I have known seed sown in the Fall make good plants, but do not recommend it.

**SOIL.**—A rich, sandy, second bottom, I believe to be the best for raising tobacco, although our chocolate-colored uplands, when very rich and highly manured, will grow an excellent quality of tobacco, but will not yield as much to the acre. Black river-bottoms will yield more to the acre than any other kind of land, but the tobacco is not of so fine a quality; it grows larger, has coarser stems, and heavier body, and consequently, is not so good for wrappers or fine, cut as the second bottom or upland tobacco.

**MANURING AND PREPARING FOR PLANTING.**—Tobacco is a gross feeder and grows rapidly when once started; it therefore needs plenty of food to make it grow well. There should be a good coat of clover to plow under; if the ground is naturally rich, this alone, will make a good crop; but hog and stable-manure well rotted, is what the tobacco, as well as any other crop, delights in, and the more manure, the better the tobacco. The plan that I am now experimenting on is, as soon as I cut my tobacco in the Fall I give the ground a good harrowing, and then drill in wheat; the ground being well cultivated all the Fall, is clear of weeds and mellow and needs no plowing. In the Spring I sow clover; after the wheat is off, I keep the stock off until about September, to give the clover a chance to harden and spread. I then let the stock eat as low as they want to, which drives the clover to root and causes the crown to spread; I do not suffer stock to run on the clover during Winter or Spring. About the last of May or first of June I plow the clover under, which is now in blossom, and so I alternately keep two fields in tobacco and wheat, at the same time feeding the ground a crop of clover every two years; in this way I expect my land to increase in fertility all the time. The clover turned under, makes food for the cut-worms, and they trouble the tobacco-plants but little. We now harrow thoroughly, following in the same way that we plow, to make the soil flat and not drag up; next the roller is put on, and after the ground is well rolled it should be again harrowed, and, if cloddy, rolled again. Make the ground in the best condition possible, so that the roots of the tobacco will have no difficulty in penetrating the soil and searching for food. My plan is to furrow east and west three feet apart, north and south three and a half feet. I plow the tobacco both ways, but do all the hoeing, suckering, etc., north and south. Some mark out the ground 3 feet each way, but I think it is too close. If the tobacco is large, three feet does not give room to work among it conveniently. I mark out the ground with a small one-horse plow, going east and west first, finishing the way that I make my hills. The usual way to make the hills is with the hoe, making the hill where the furrows cross each other, drawing the dirt into a hill about



as large as for covering corn or potatoes. With the flat part or back of the hoe press or flatten the hill down to the level of the surface of the ground, taking care to have it clear of clods or rubbish. I generally make my hills with what we call a jumping shovel—the frame of a single shovel-plow, made light, with a shovel about eight inches square, put on in the place of the common shovel. Hitch a steady horse to this, start him in the furrows, dip the shovel in the middle of the furrows, and raise it, depositing the dirt at the cross of the furrows. Have a hand following to level and put down the hills, and take out clods. In this way I make, with the assistance of a boy fifteen years old, about fifteen thousand hills in a day; with the hoe three or four thousand is a good day's work.

**SETTING OUT PLANTS.**—From the first to the fifteenth of June is the proper time, although, if it is seasonable, up to the fourth of July will do, but the sooner after the first of June the better. By this time, with proper care and attention, the plants are large enough. The ground should be well saturated with rain, and a cloudy day is much the best. Immediately after a rain, or between showers, call out all the force, for the work is pressing; the success of the crop depends on getting it out at the right time; all hands go to the plant-beds, pull the largest plants, one at a time; don't let two stick together, or the boys will drop them together and a plant will be lost. After the baskets are full, let one hand continue to pull plants. Put the little boys and girls to dropping one plant on the side of each hill; let those who stick, take an extra plant in the hand, drawing the leaves together in the left hand, and with the fore-finger of the right hand make a hole in the center of the hill deep enough to receive the full length of the roots without the tap root bending up; insert the plant up to the collar with the left hand; stick the fore-finger of the right hand one or two inches from the plant, and press the dirt well up against the roots, taking care that the dirt is pressed so as to fill up the hole. Pick up the plant on the side of the hill, and as you step to the next hill arrange it for sticking; in this way you always stick the plant that you pick from one hill in the next, thereby greatly facilitating the work. Sometimes the ground is not sufficiently wet, and the sun coming on the plant is apt to injure it; at such times take a small clod and lay it on the heart of the plant to keep the sun off, removing the clod in the evening. As soon as the plants have started, the first time the ground is wet enough, replant where they have died out.

**CULTIVATION.**—As soon as the plants have taken root and commenced to grow, begin to use a double shovel-plow, having the shovel next the tobacco, about three inches wide and six or eight inches long; do not go too close to the hill, or you may displace the plant; follow with a hoe, removing all grass and weeds, leaving the tobacco master of the situation. Dig gently the surface of the hill, and draw a little fine dirt around the plant, and strive to keep the soil around the hill as mellow as possible without disturbing the plant. After going over in this manner, plow the opposite way, going twice in a row. Some prefer the cultivator for going over the first two times, and I think perhaps it would be preferable, as it pulverizes the ground better than the shovel-plow. After going over the field twice, in the above manner, commence again with the double shovel-plow, the way the tobacco was planted, following with the hoe, giving it a good hoeing as before. Use your judgment about the amount of tillage needed; keep clear of weeds; keep the ground mellow, and when the plants have spread so that they are bruised by the hoe and plow, stop cultivating.

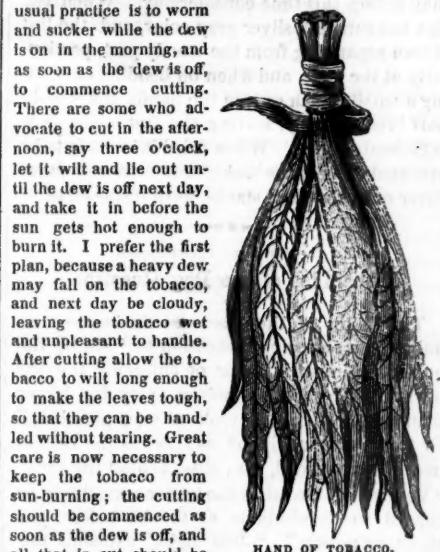
**WORMS.**—As soon as worms appear, which is generally when the leaves are as big as a man's hand, go over the tobacco, looking carefully at every plant. The worms usually stay on the under side of the leaf; if you see a hole in the leaf, no matter how small, raise it up and you will generally find a worm under it. Worming can not be done too carefully. Miss one or two worms on a plant, and before you are aware of it the plant is nearly eaten up. When you find a worm, take hold of it with the thumb and fore-finger, giving your thumb that peculiar twist which none but those who are practised in it know how to do, and put the proper amount of pressure on, and my word for it you will render his wormship harmless. Worming must be continued until the tobacco is cut; the last worming to immediately precede cutting and housing.

**TOPPING.**—The tobacco is ready to top when the button (as the blossom or top of the stalk is called) has put out sufficiently to be taken hold of, without injury to the top leaves. As tobacco is not regular in coming into blossom, it is the usual practice to let those stalks that blossom first, run a little beyond their time of topping, and then top all that is in button as you go. There is no particular right to top at, but, as a general thing, sixteen to eighteen leaves are left; judgment is necessary to determine where to top; if topped too high, two or three of the leaves are so small as not to amount to much; if topped low, the tobacco spreads better. If just coming out in top, reach down among the top leaves, and with

thumb and fore-finger pinch the top or button off below two or three leaves; if well out in top, break off several inches from the button and four or five leaves below it.

**SUCKERING.**—As soon as the tobacco is topped, the suckers begin to grow; one shoots out from the stalk at the root of each leaf, on the upper side. When the top suckers are from three to four inches long, the suckering should be done. With the right hand take hold of the top sucker, with the left take hold of the next close to the stalk, and break them off, and so proceed, using both hands, stooping over the stalk, taking care not to injure the leaf. Break the suckers about half-way down the stalk, the balance being too short to need removing until the second suckering. In about two weeks from topping, the tobacco is ready to cut; now give it the last worming and suckering, breaking all suckers off down to the ground, and remove every worm, if you don't want your tobacco eaten in the sheds.

**CUTTING AND HOUSING.**—As a general rule, tobacco should be cut in about two weeks from topping, at which time the leaves assume a spotted appearance and appear to have filled up thicker: double up the leaf and press it together with thumb and finger, and, if ready to cut, the leaf where pressed, will break crisp and short. Do not let your tobacco get over-ripe or it will cure up yellow and spotted; it is better to cut too soon than too late. Take a hatchet or short corn-knife, grasp the stalk with the left hand, bend it well to the left, so as to expose the lower part of the stalk, strike with knife just at the surface of the ground, let the stalk drop over on the ground without doubling the leaves under, and leave it to wilt. The usual practice is to worm and sucker while the dew is on in the morning, and as soon as the dew is off, to commence cutting. There are some who advocate to cut in the afternoon, say three o'clock, let it wilt and lie out until the dew is off next day, and take it in before the sun gets hot enough to burn it. I prefer the first plan, because a heavy dew may fall on the tobacco, and next day be cloudy, leaving the tobacco wet and unpleasant to handle. After cutting allow the tobacco to wilt long enough to make the leaves tough, so that they can be handled without tearing. Great care is now necessary to keep the tobacco from sun-burning; the cutting should be commenced as soon as the dew is off, and all that is cut should be housed by eleven o'clock, unless it is cloudy; from eleven to two o'clock the direct rays of the sun on tobacco, after it is cut, will burn the leaves in twenty minutes; after two, as a general thing, there is no danger of such burning, the sun's rays not striking direct on the tobacco. Have a wagon at hand, with stiff boards twelve feet long laid on the running gears: as soon as the tobacco is wilted so that it can be handled without breaking, commence loading on both sides of the wagon on the front end, lapping the tobacco the same as loading fodder, keeping the butts on both sides—build about two feet high, and so on until loaded.



HAND OF TOBACCO.

**TOBACCO BARN.**—Mine is 50 by 33 feet, with 18 feet posts; the tiers are four and a half feet apart. I hang four full tiers of tobacco, and hang between the purlin plates in the comb, a half-tier; the bents of the frame are 16½ feet apart. I hang on four-foot sticks made of hickory, rived one-half inch by 1½ inches, shaved and tapered at one end to enter an iron socket; I have sawed sugar-tree scantlings 16½ feet long, 3 by 4 inches thick, for the ends of the sticks to rest on and meet in the centre of the rail, 1½ inches resting on it. Some use sawed lath to hang on, but the split and shaved are far preferable. Hanging on fence-rails with twine is going out of use, as it should. I use my barn to store wheat and barley, threshing just before tobacco-hanging. My barn will hang about seven acres of good tobacco.

**HOUSING TOBACCO.**—The tobacco being brought to the barn, should be unloaded on a platform or bench convenient for handling. An iron socket, about 6 inches long, ¾ by 1½ inches at the big end, tapering to a sharp point, is necessary; the sticks should be shaved so as to fit the socket as near as possible, but do not bring the stick to a sharp point, or it will not lie firmly on the rail. Have a 1½ inch hole bored three inches deep in the barn-post, three feet from the ground or floor; let the hole be bored

slanting down a little, so that the socket end of the lath may be the highest; put the end of the stick that is not tapered into this hole and the socket on the lath; take hold of a stalk with the right hand, about one foot from the butt end, bring it against the point of the socket, six inches from the butt of the stalk, grasp the butt with the left hand, and give the right hand a firm, quick jerk, to start the stalk to split; then, with both hands, pull it back against the post, and so on until you have the stick full. The stalks should not be crowded on the sticks; four or five inches apart is close enough; eight or nine large stalks are enough for a four-foot stick. Having filled the stick, remove the socket, lay your stick of tobacco on the floor, and go on sticking until the load is all stuck; or it is a good plan to have rails laid on the lower tie, and hang for the present as you stick. While one or two hands are hanging one load, another may be in the field bringing in another. In hanging, have a single block and half-inch rope, with a hook at one end; secure the block near where you hang, place the hook in the centre of the stick of tobacco, and let the man on the floor draw it up to the one who hangs. There should be a stout pine board, two inches thick, fifteen inches wide, and long enough to reach from tie to tie; this should be placed under where you hang, to walk on. When the tobacco is hoisted up, take it off the hook, and walk to the farther end of the board; have your rail placed to receive the stick, and so continue until the rails are full, then move the board and block to another place, and so continue. A sixteen-foot rail will hang about twenty-four laths; eight inches apart is about the distance to place the laths of tobacco on the rails; if too much crowded, the tobacco will house-burn. Care should be used never to let a load of tobacco lie long on the wagon, or in a pile, as it sweats and heats, and is soon ruined. Always keep the tobacco cool. After it is housed, keep the doors open day and night, so that it may have the benefit of the warm and dry air, for the purpose of curing, closing the doors against high winds and beating rains. When cured keep the doors closed.

**STRIPPING.**—When the tobacco is sufficiently cured to strip, which will be after it has been well frozen and dried out, you will have to watch for it to get "in case" for handling; when a warm, wet, misty spell of weather comes, throw open the doors to allow the tobacco to take the damp. When the stems of the leaves are so limber that they will not snap, and the leaves are pliable, but not too wet, take down a sufficient quantity to strip for two or three days; take it off the sticks, make a temporary crib of boards about four feet wide, and bulk the tobacco in it, laying the tops in, butts out, next the boards. After you have made your bulk, cover with an old carpet, boards, or anything else handy, to keep it from getting too damp, or from drying out. Care should be taken that the bulk does not heat; if the stalks are wet, or there is any uncured tobacco, forty-eight hours is sufficient to spoil the tobacco. During the Winter there are generally several tobacco seasons, and by improving them the stripping can all be done before March. Having the bulk down, we now proceed to strip for market; lay a pile of the tobacco on a bench or platform about two feet high, and let the most careful and handy man take a stalk in his left hand, give it a shake to make the leaves hang out free, then pick off four or five of the bottom or ground leaves, and any badly torn or diseased leaves, and all such as are not considered prime; do not put any frosted or "fat" leaves in, as it spoils the tobacco; pass the stalk that is primed to the stripper, and let him take off the prime leaves. Take off one leaf at a time, keeping them straight in the hand; when a sufficient number are taken off to make what is called a hand of tobacco, take a leaf in the right hand, put the thumb of the left hand on the end of the leaf, about one inch from the butt of the hand or bunch, and pass the leaf around once or twice; an inch is wide enough for the hand; open the hand of tobacco in the centre, pass the end of the leaf through and draw it tight, then squeeze the hand together and lay it down, keeping the leaves straight. An inch and a half in diameter is large enough for a hand. When a sufficient quantity is stripped to commence bulking, make two places to bulk in, one for prime and one for ground leaf; let the space be according to the quantity of tobacco to bulk. A bulk 3½ feet high and 20 feet long, will hold ten boxes, or about four thousand lbs. of prime tobacco; the sides of the bulk must not be inclosed, but left open, so that the butts can dry out; at each end of the bulk put a bulkhead of boards to build against, about three feet wide and four feet high; secure this upright and firm; do not build on the ground, but on a platform or floor. Commence at one end against the bulkhead, take one hand of tobacco at a time, straighten and smooth it, and lay it on the floor at one side of the bulk; take another as above, press it against the first, and so proceed to lay the length of the bulk; then turn and lay down the other side of the bulk, letting the ends of the tobacco lap over the first row about four inches, and so repeat, keeping the butts even. After one or two

rounds are laid, get on the bulk on the knees, and as you lay a hand put your knee on it, and thus pack as close and compact as possible. When not bulking down, have boards laid on the tobacco, and weights put on to keep it level. Keep the ground leaf separate from the prime.

**Boxing.**—Boxes should be made 30 inches square by 42 inches in length outside; saw the end-boards 28 inches long, nail them to two 1½ inch square slats, so that the head will be 28 inches square; when two heads are made, nail the sides of the box to the heads so as to come even with the outside of the head, the sides being 28 inches wide; then nail the bottom on firmly; the top can be nailed slightly until after the tobacco is packed, when it can be nailed firm. Set your box by the side of the bulk, and let one man get in the box and another pass the tobacco to him, one hand at a time, taking care not to shake it out, but put in the box as it comes from bulk, with the but of the hand next the end of the box. Place close and press with the knee firmly; lay alternate courses at each end, and if the tobacco is not long enough to lap sufficiently to fill the centre, put a few hands cross-wise in the centre. When the box is full, place it under a lever; have a follower, that is a cover made of inch boards, nailed to two pieces of scantling, and made to fit inside of the box; lay this on the tobacco, and place blocks of scantling on it of a sufficient height for the lever to be clear of the box when pressed. Press down firmly with a strong lever, and, while kneeling in another boxful, let the lever remain so that the tobacco gets set in the box. When ready, take the lever off and fill up as before, about six inches higher than the box, press it below the top of the box, take off your lever and nail on the top as quickly as possible. Some use tobacco-presses for packing, which are perhaps more convenient; they are of various patterns, but a lever saves expense of a press, and is within the reach of all. If tobacco is sold at the shed, it should be sold before packing, being easier examined in bulk than in the box.

### Notes on Flax Culture...III.

Before flax can be used by the manufacturer, the fibrous material must be separated from the other portions of the straw. Each stalk consists of three distinct parts, viz.: a woody stem in the center, called the "shoove," or "boon;" next to this and surrounding it are the fibers, and outside of all a thin bark or skin. The fine filaments of fiber are cemented together and fastened to the other parts of the stalk by a gummy, resinous matter, which must be extracted in order to separate the filaments and render them sufficiently pliant for spinning. This part of the business is a chemical operation, and properly a separate branch, of importance enough where flax is largely cultivated, to require the services of appliances specially adapted for the work, and skilled operatives to conduct the process. In France a class of men termed "liniers" take the raw flax in the straw from the hands of the cultivator, and attend to all the manipulations necessary to prepare it for the manufacturer. Were this crop grown to a sufficient extent in this country, such a division of labor would undoubtedly soon be made here. In fact, in view of the prospective increase in flax culture, parties are already experimenting and perfecting processes whereby they expect to be enabled to profitably purchase the straw from the farmer and reduce it to the desired state. Until such arrangements are completed, it will be necessary for the flax raiser to follow the method heretofore practised, and to conduct the "retting" as it is termed, upon his own premises. This consists in decomposing the gummy, resinous matter by fermentation and putrefaction; literally rotting it away. It is done by subjecting the flax to the action of moisture and warmth. To this end, it may be steeped in vats, ponds, or sluggish streams, which is called water-retting, or it may be exposed to rain and dew, termed dew-retting. The latter process is almost universally employed in this country. About the last of August, the straw is taken to a smooth meadow, or pasture land,

where it may be kept clean, and spread carefully in swaths, about half an inch thick. Keep the butts even, and make the rows several inches apart, so that the ends of the straw may not become interlocked. If there be not rain and dew enough to wet it frequently and thoroughly, the retting may be hastened by turning it. Many recommend to let it remain until one side is sufficiently retted, before exposing the other. The turning is easily and quickly performed



with a light smooth pole ten or twelve feet long, slightly curved as shown in the engraving. About five weeks is usually sufficient to complete the process of dew-retting. This, however, depends materially upon the state of the weather. Frequent showers and heavy dews may reduce this time considerably. When the flax has turned a silver gray color, and the lint is seen separating from the woody part, particularly at the ends, and when on bending or twisting a small bunch of it in the hands the woody part breaks freely, leaving the lint clear, it is sufficiently retted. When dried it is ready to be operated on with the brake, or to be stored under cover or in thatched stacks, until disposed of.

For the American Agriculturist.

### Both Sides of the Dog Question.

The Editor of the *American Agriculturist* indulges in a sweeping invocation to "stir up the public sentiment in favor of enforcing the dog laws." "To shoot or poison every dog larger than a rat terrier, that looks at your premises." Or to "cut their tails off as short as the Dutchman recommended, viz., close behind the ears." "Very good," exclaims the terrier man, "only be careful to discriminate as to size before you shoot, or poison." "Just right," exclaims the little Miss as she pats her diminutive lap-dog. "Capital," says the sheep breeder. "Just right," echo a host of men. And "quite wrong," retort another host. "Partly wrong and partly right," says the writer. We can not do without dogs, and we can not do without sheep. Every one knows why we can not do without sheep. Every one does not know why we can not do without dogs. One reason is, we can not get rid of them. Another is, the farmer can not be secure in his crops, nor sure of his full quota of lambs without them. [We "don't see it."]

But few farmers that have lost from 50 to 100 bushels of corn in one season, as many have, will be in favor of the faithful dog's tail being trimmed as high up as was the Dutchman's dog. Farmers that have urged bounty acts for the destruction of foxes, would much rather see a well known hound's head with a little more tail left on. The truth is, we need well bred and well trained dogs, if any. Our country is cursed with an endless variety of curs that sneak, and stroll, by ones, twos, threes, and half dozens, scattering racket, wool, mutton, and slaughter and confusion, hydrophobia, frightened horses and broken carriages in dangerous profusion. Every owner of a dog should be responsible for his conduct. If he is too poor to pay damages, he is too poor to own any dog, and if he persists in keeping one, let him (the owner) go to jail like a criminal.

We should not tolerate an irresponsible man in our nation. Every owner of a dog should give him every opportunity to chase sheep when he is a puppy, and if he does it, whip him: if he does it again, whip him harder: if he does it again, place the dog at one end of a rope and an old Heenan and Sayers ram at the other end. After a reasonable number of discharges and recoils, loose, and try him again. If he offends again, deliver him over to the *American Agriculturist*, then anticipate the finale.

Mr. Editor, please compromise in your next number, by excepting from your extreme trimming operation all sporting dogs until duly convicted of crime; but if you will not relax from your apparent incorrigibility, do not suspend the writ of *habeas corpus* in case you get my dog in your clutches. OHIO.

By a curious coincidence, in the same mail with the above plea, came the following list of damages awarded by the Supervisors of Jefferson Co., Ohio, to owners of sheep killed by dogs during the year 1863.

Tristram Frink, Rutland.....	\$25 00
James G. Kellog, Lorraine.....	6 00
James A. Hunt, Antwerp.....	14 50
Guy E. White, Antwerp.....	6 50
James Dickson, Antwerp.....	7 50
Delos McWayne, Brownville.....	6 50
Bela Case, Hounsfield.....	4 00
James Van Allen, Hounsfield.....	10 00
Daniel Smith, Ellisburgh.....	80 00
J. T. Burton, Rodman.....	5 00
George Cooper, Adams.....	20 00
M. C. Porter, Adams.....	30 00
N. M. Wardwell, Adams.....	8 00
T. V. Maxon, Adams.....	11 00
John W. Arthur, Champion.....	15 00
William Dobson, Henderson.....	18 00
Henry Griffin, Henderson.....	3 00
Wm. E. Overton, Henderson.....	3 00
Geo. Sabin & Bro., Brownville.....	8 00
Patrick Boyed, Wilna.....	6 00

\$287 00

The above was forwarded by Mr. Robert J. Holmes, of Jefferson Co., who fully endorses the crusade against dogs for their sheep-killing propensities and adds: "I find it don't improve a bed of tulips or a collection of choice asters, to have a pack of dogs running over them." If all would agree to have none but well trained animals, and to keep them in place, there could be little complaint; but the laws can not well discriminate, and it is better that a few should lose their favorite dogs than that many should have their flocks destroyed.

### "Lampas" in Horses.

The horizontal bars in the roof of the horse's mouth are undoubtedly intended to aid the animal to retain food in the mouth while it is being masticated. They are abundantly furnished with blood vessels and nerves, and are therefore very sensitive. When colts are teething, the disturbance of the adjacent parts sometimes causes these bars to be inflamed and swollen. Then the animal can not eat without pain, and uninformed persons have ascribed the apparent falling off of appetite under such circumstances, to a disease named "Lampas." To remedy the supposed ailment, it has been recommended and is still practised in some localities, to burn out the swollen bars with a red hot iron made for the purpose. The operation is an unnecessary and injurious cruelty. The portion of the mouth thus destroyed, can never be replaced, and thus the power of perfect mastication is impaired. The only surgical operation allowable in cases needing assistance, is to lance the inflamed parts, the same as a physician would treat the gums of



a child in case of difficult teething. This can easily be done with a sharp penknife. After the lancing, it is recommended to wash the mouth with two ounces of tincture of myrrh to a pint of water, or a strong solution of alum in water. Feed the colt on bran mashes and grass, withholding all grain until he eats without difficulty.

### Care of Harness.

T. Oliver Ayres, a practical harness-maker, Kent Co., Del., contributes to the *American Agriculturist* the following suggestions: "Harness should be kept hung up on wooden pegs in a clean dry room with a plank floor, so that it may be free from dampness. When soiled, it should be washed with Castile soap suds. Harness that is in constant use needs oiling four times a year; if only occasionally brought out, as carriage harness, etc., twice a year will be sufficient, if the washing be not neglected.

To oil harness, separate all the pieces, and lay them in water until thoroughly wet through. Then wash them clean, and allow them to dry sufficiently. To know when they are in good condition for oiling, bend a strap, and if the water does not ooze out, it is dry enough. Train-oil (whale oil) is sometimes used, but neats-foot oil is much better. Mix with it a little lamp-black, and with a brush apply it to both sides of the straps. About six hours after oiling, wash the whole with Castile soap and warm water, let them dry, rub well with a woolen cloth, and buckle them together."

### Management of Fowls.

J. E. Hardisty, Harford Co., Md., writes to the *American Agriculturist* as follows: "I keep 7 hens and 1 cock. During the last year, ending Dec. 31st, 1862, each hen laid on an average 128 eggs, and raised two broods of chickens. I feed them well on corn; they were shut up during corn-planting time for four weeks, which shortened the number of eggs at least 130. They lay nearly every day when they can get animal food. If I had any way of providing them with cheap animal food in the winter, I believe they would each lay 250 eggs a year. My neighbors wonder why they lay so well. My plan for several years has been this: I keep none but the game breed, and but few of them; if a hen does not lay at least ten dozen eggs a year, or if she will sit when we don't want her to, she soon becomes a candidate for the dinner-pot, and never fails being elected, her place being filled by a younger one, to undergo a like ordeal. In Spring I generally have 10 or 11 hens and pullets to select from; by May 1st, 7 or 8 remain; I keep two old favorites that lay well, sit well, and take good care of the chickens when hatched. Cost of feeding each hen 50 cents; average price of eggs 12½ cents per dozen; one quart of corn per day, in the winter, when they can get nothing else, is as much as ten game chickens will eat."

M. L. B., Greenwood, Maryland, found the profits arising from 3 cocks, 5 hens, and 15 pullets of the Black Spanish, Dominique, and Brama Pootra breeds, as follows:

1584 eggs collected and sold at 16c. per dozen.....	\$21.12
179 chickens raised, at 25c.....	44.75
Total.....	\$65.87
23 dozen eggs set.....	\$3.68
Cost of grain for feed.....	25.51—29.19
Profit on 23 fowls.....	\$36.66

As has been frequently remarked in these columns, poultry raising on a limited scale is far more profitable than when attempted largely.

Many have been induced, by accounts like the above, to enter the business on a wholesale plan. But, even with the best arranged buildings for the purpose, and the most careful management, so far as we know there has been only complete failure. It is not natural for poultry to gather in large flocks. Uncontrollable diseases break out among them such under circumstances, or for some unexplained reason they fail to lay, and become unprofitable. From 15 to 30 fowls properly kept will add largely to the family income, both on the table and in the pocket.

### Blinks from a Lantern... XXXIII.



VISITS A BACHELOR FARMER.

Since my reappearance, I have had occasion to reform my notions about the opposite sex. They have grown so much more companionable than they were in my day, that a bachelor of middle age living by himself, is the rarest of birds in the rural districts. I occasionally find one amid a group of maiden sisters, temporarily stalled on his road to matrimony, but so humanized by his surroundings that he is hardly to be distinguished from a married man. This certainly is a very great change in the state of society. Mrs. Grundy, who is quite as much of a woman as she is a farmer, suggests that the sweeter temper of the women of modern times may be owing to the improvement of the men. There may be something in that, for I remember now, that even Socrates was not a saint, according to the modern standard.

I recently, however, heard of a Simon pure bachelor, a real woman hater, who set up for himself forty years ago, and has lived to old age in a house unblest by woman's footsteps. A negro attended to his housekeeping, which was of the most primitive kind, and lent a hand in the field when the indoor work was not pressing. I found Jacob Pennywise the owner of a good farm, by his own earnings. The exterior of the house was not so unpromising, for it had been built for a man with a family. It was a good deal larger than Pennywise needed, but as he could not make it smaller without expense it remained as he purchased it. The barn was a model building, the masterpiece of Jacob's life. He could appreciate the wants of animals much better than those of human beings. By his animals he made his money, and these must be comfortably housed and well fed, whatever else suffered. He seemed to take to animals more than to men, and to have a fellow feeling for them. He always fed them himself, when at home, and this was without exception for forty years. He had never slept under another roof in all those years, and the farthest adventure from home, had been to the nearest market town, seven miles off. He took much more pride in the appearance of his cattle, than in his own. He carded and brushed his working cattle and steers, that he was breaking to the yoke, though, judging from his tangled locks, the comb seldom disturbed his own head. He had noticed

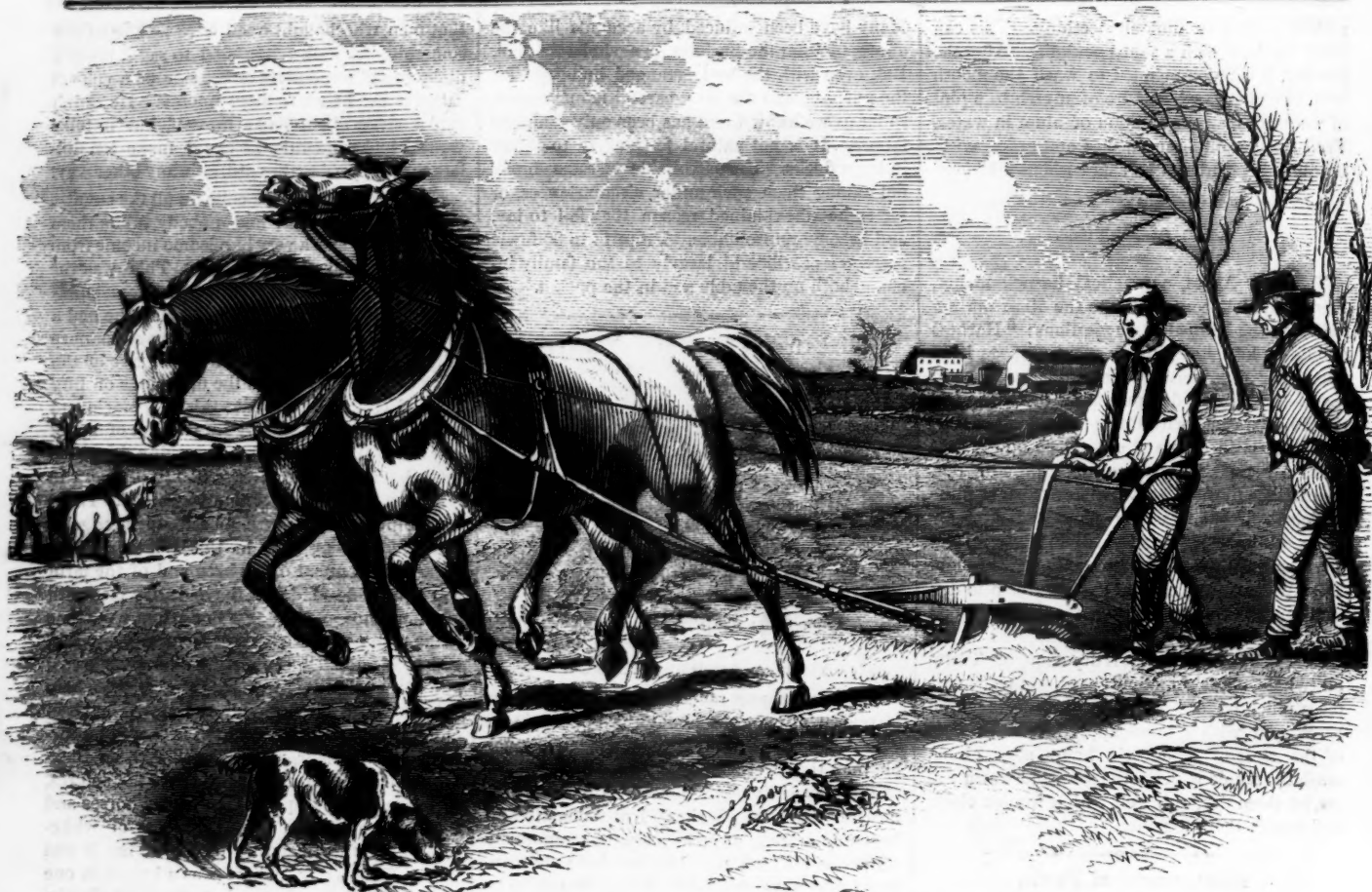
that men who bought oxen were willing to pay something for looks. He used to say it made a difference of ten dollars in the sale of a yoke of cattle, if the hair was kept smooth. He didn't care a straw about looks himself, but if folks wanted looks in cattle, he could make ten dollars as easy by using the card, as in any other way.

He was famous for his colts, in all the county. Nobody raised better, and nobody broke them so well. He had a very handsome income from the sale of animals every year. This was the chief product of his farm, though he occasionally sold poultry, grain, and fruit, when he had a surplus. He was almost as covetous of manure as he was of his money. The cellar was of the full size of the barn, and the droppings of fifty head of cattle all went into this receptacle and were composted with large quantities of muck and loam. He never allowed a rainy day to be wasted. There was always plenty of work in the barn cellar, however hard it rained. There was nothing like manure, he said, to make good colts and steers, and in this he was right.

The management of the barn and of the farm was admirable, indeed I have rarely met with anything more orthodox. But when we come to the management of Jacob Pennywise himself, and of his domicile, the picture changes. I saw at a glance that this was bachelor's hall, where the song of a mother and the merry laugh of children were never heard. There was no carpet upon the floor, no cushioned seat, no rocking chair, no mirror upon the walls, no pictures, not even a lithograph of his favorite horses and oxen. There had once been a coat of white-wash upon the plastering overhead, but it was before Jacob's day. There was a broom in one corner, but it was in the last stages of dissolution, having been used up for tooth picks. There could have been no sweeping done there for many weeks. There was a settee upon one side, and a long table; a half dozen chairs upon another, of the plainest description; a cook-stove and a wood-box upon the third; and on the fourth a long box with a lid, suggestive to more senses than one, of boots and bed-clothes within. This was the sleeping apartment of Scipio, the body servant of Pennywise. Judging from the looks of the lord of the mansion, Scipio's duties were light.

Though Jacob was reputed rich, he was never known to invest in stocks, or to deposit his money in the bank. He occasionally visited that institution, and always carried specie away. He paid his taxes promptly, for he could not help it, but this was his only contribution for the public welfare. His appearance was so seedy that no stranger would think of applying to him for charity, and his neighbors knew him too well to ask aid. He cared nothing for schools or churches, for highways or public improvements. He had about as much as he could attend to, to take care of his farm. He had no near relatives, and was never known to entertain a guest at his house, and he never went a visiting himself.

A few days after my visit I saw the notice of his death. He was found dead on his bed one cold winter morning, by old Scipio. On examining the premises, they found stowed away in various places, gold and silver coin to the amount of over thirty thousand dollars, which was the sum total of all that was left of Jacob Pennywise. Here was a man lost for the want of a woman. He filled no useful place in society. He was a mere machine for making money. The noblest product of the farm is manhood. If the soil can not be made to yield that crop, it were better to lie waste.



### Importance of Good Plowing.

The plow will do its work on millions of acres, the present month. The abundant, or meager return in harvest time, very largely depends upon whether that work be well or poorly done. A soil of only moderate richness, if brought to a proper mechanical condition, will feed growing plants far better than stronger land imperfectly tilled. Every one knows that newly cleared forest land usually produces its best crops during the first few years of cultivation. This is not wholly owing to the plant-food yielded by the vegetable deposit which it contains. For many years trees have been sending their fibrous roots throughout its whole substance; scarcely a particle has been left undisturbed. Every square inch is permeated with decayed or decomposed matter. The soil is thus made loose and friable. It holds moisture, admits air and warmth, and the roots of grain or other crops extend unobstructed, and find nourishment at every step. Now, merely manuring such a field will not keep it in this condition. The fertilizing material must be distributed throughout the soil, not only that it may be readily appropriated by the growing plants, but that it may aid in keeping the soil in proper mechanical condition. Those who advocate only top-dressing, lose sight of this fact. The stimulating properties of manure will undoubtedly be felt by the soluble parts being carried to the roots by rain, but an important condition for plant growth will still be lacking. Perhaps for the same reason, in part, guano and other concentrated manures are beneficial for only a limited period. This also explains, in part, the favorable action of clover in rotation: the decaying roots are distributed throughout the soil more evenly than could be

done by any method of manuring now practised. The illustrations are given to enforce the importance of good plowing. The very best execution of this process will only partially supply the most favorable condition for growth. Every care should therefore be taken to have the soil as thoroughly pulverized, and manure as finely mixed through it, as is possible. Good plowing can not be done on clayey land while wet. The furrow slice may roll smoothly as from a brick mold, but it will be compacted into lumps which no harrowing will reduce. A crop put in two weeks later than ordinary on ground in good condition, would stand a better chance than if sown on a field of lumps. The advantages of draining, will be readily seen at plowing time. On drained ground a week or fortnight is often gained for growth of crops.

Much will depend upon the excellence of the implement used. We cannot name the best plow, for the reason that the styles must be varied on the different soils. A variation of one or two inches in depth of plowing may require a radical change in the implement. A plow working easily on stubble may entirely fail on sward. As a general rule it is safest to use a plow adapted for deep work. It may be adjusted to run light; but a plow for shallow work, can not be made to go deep effectively. If possible, purchase a new plow only on trial at first. If it runs with light draft, turns a furrow slice well at from four to eight inches is easily kept at uniform depth, and is well put together, it is a good implement.

A good plowman strikes a straight furrow, leaves it clean behind him, and the surface of the field as nearly level as the nature of the ground will admit. No written instruction will explain how this can be done. A man must learn the art at the plow-handle, and it will re-

quire thought and ingenuity as well as strength and agility. Paying a few dollars extra to an expert hand at this business, rather than entrusting it to an awkward bungler, will in the end be found to be a profitable investment.

### Improvements on the Corn Marker.

We have received from Mr. David C. Voorhees, a very neat model of the New-Jersey corn marker described in the *Agriculturist*, page 41, (Feb. No.) fitted with several improvements of his own. These may be readily understood by referring to the engraving previously published, as noted above. The guide pole is attached to the forward beam of the sled where it will be less liable to throw the runners from the track, in marking uneven ground or in meeting any obstruction. A convenient seat is attached, supported by four legs inserted in the beams. A lever or handle three or four feet long is fastened to the rear beam, by which to adjust the sled to its place when starting, and to lift the rear end in turning. The most essential improvement appears to be attaching a cast steel cultivator share or tooth to the back end of each runner, near the bottom. These make the marks more distinct and leave the soil loose. They also prevent the runners from being easily thrown out of place. The cultivator teeth can be procured at small cost at almost any implement store.

### How to Stop a Leak—Manure.

A subscriber, "D. C. V.," Blawenburg, N. J., writes as follows: "It is not a cement or patent Gutta Percha liquid for stopping the holes in an old roof, to which I refer, but a way to stop the leaking of golden streams of liquid manure. I call them golden, for who can tell how many



bushels of wheat are running away in this manner? Hints thrown out by the *Agriculturist* about saving manure, led me to look into my own system of making a return to the land for what had been taken off. I thought of the rich stream that was flowing from the barn yard through a ditch that had been dug into a field, for the purpose of drying the yard, which was not only a waste, but was also spoiling a piece of good land along the ditch, where little but weeds would grow. To remedy the evil, I made a pond nearly as long as the width of the yard, twelve feet wide, and eighteen inches deep. With the coarsest dirt I threw up a bank on the lowest side; the remainder was thrown in the pond again. The yard has inclination enough to run the liquid into the pond, and as fast as any liquid makes its appearance there, I throw in any kind of muck, good soil, rubbish, chip dirt, leaves from the woods, etc." Where nothing better can be devised, such an arrangement as this will add many loads of the best manure to the amount that should be used on thousands of farms.

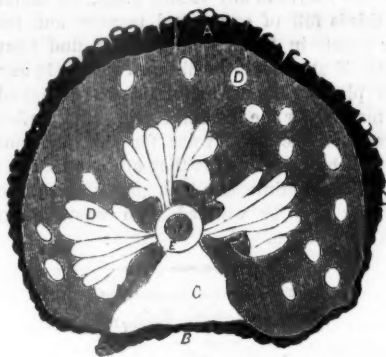


Fig. 1.

### Some Observations on the Plum Knot.

BY C. F. AUSTIN.

This disease is not produced, as many suppose, by that great bugbear the curculio, nor by any insect whatever; neither is it a "cankerous disease produced by vitiated sap," as some imagine, but is simply a *fungus*, which, germinating on the bark of the plum or cherry tree, penetrates to the wood, and increasing rapidly in size, ruptures and displaces the bark, soon forming an irregular naked excrescence, six inches or more long by about one-half inch in width. Its fungoid character was detected more than 40 years ago, by L. D. von Schweinitz, a renowned botanist of Pennsylvania, and described in his "*Synopsis Fungorum Caroliniana Superioris*," under the name of *Sphaeria morbosa*. Yet it is evident, from his remarks in his "Second Observations on Fungi," (published in *Trans. Philos. Soc., Phila.*) in 1833, that he had never examined the excrescence further than to find its fungoid character, and seems to have held the idea that it was produced by the joint action of a fungus and an insect. That it is a fungus is evident to any one acquainted with this class of plants. Even the sub-genus to which it belongs may be readily determined without the aid of a lens, and its habit is so different from that of galls, that it is to be presumed no person who is accustomed to watch the operations of insects would pronounce it an insect-gall. It always appears on wood at least one, and seldom on that less than two years old, and always ruptures the bark or cuticle, and exposes itself to the influence of air and light: while, on the other hand, galls always appear on the present

season's growth, and possess a covering formed from the cuticle of the plant upon which they grow, by cell multiplication. Their internal



Fig. 2.

substance is formed directly from those cells existing at the time it was stung by the insect.

In the Plum Knot the case is entirely different; its substance originates (covering and all) from a spore, such as is represented in Fig. 3. One of these spores, under favorable circumstances, when attached to the bark of the plum or cherry, divides itself into two cells, each of these into two or four, and each of these again into two or four others, and so on until very quickly a large tumor is formed, which occupies the place of the bark which it has forced off. How deeply it penetrates the wood, my limited observations do not reveal. I have not found it extending to the pith, but it penetrates the present and, sometimes at least, the former season's growth, splitting it up into bundles that are frequently widely separated from each other by the loose cellular tissue which this parasite, by its own proper growth, has thrust between them, appropriating their sap, and arresting their growth. They make their appearance from May until October, and at a certain stage of their existence become thickly covered on their outer surface with perithecia, (spore cases,) which, though small, are quite distinct to the naked eye. Fig. 1 represents a magnified cross-section of a diseased branch. (In this figure the dark lines and shaded portion, except at B, represent the fungus; while the white portions represent the proper wood of the branch.) A, perithecia, (spore or seed bearing organs): some of them cut longitudinally, showing the cavity in the upper part, which contains the spores. B, old bark. C, the present year's growth unaffected by the fungus. D, D, the same affected, the fungus penetrating it and splitting it up into bundles. E, previous year's growth, unaffected. F, pith, unaffected.

The perithecia (A) are of a shiny black color, oblong—club-shaped, or bud-shaped, with the apex at first rounded, then flattened, and afterward depressed: soon a little hole appears in the center, which increases in size until finally they become cup-shaped (fig. 2 and fig. 1, A). In the upper part there is a round cavity filled with a white substance composed of asci (spore sacs), fig. 3; these are club-shaped and contain several oblong spores as represented in the figure. The asci are mixed with a glutinous and filamentous substance. Some of the perithecia have very numerous smaller elliptical spores (fig. 4), which do not appear to be contained in sacs; these are considered by botanists as the *antheridia*, or male spores of the fungus.



Fig. 3.

**Remedy.**—This deadly disease, can be more easily eradicated than any other we are acquainted with. Let every person having plum or cherry trees, attend to cutting off and burning the excrescences two or three times each year—

say in June, July and September, always being careful to eradicate every particle of the fungus, for if a solitary uninjured cell of it be left, it will rapidly increase by multiplication exactly as if it were a spore, and will soon break out again. In the mean time let the trunks and larger branches of the trees be thoroughly scrubbed with strong brine, say twice during the season to destroy any spores that may have lodged on the bark, and at the end of three years this pest will have become almost literally exterminated. After that it can easily be kept down with proper care.

I believe it does not exist in Europe, and in this country is confined almost exclusively to cultivated species of the plum and cherry; and as long as the practice so common in this country of depending upon the suckers to keep up a supply of these fruit trees is continued, we may eradicate this disease, but another will surely come in its place, and doubtless one that it will be impossible to get rid of without returning to a more rational method for our stock of trees.

It is a notorious fact that not a single race of cultivated plants in this country is ever permanently injured by any disease either of insects, fungi, or the rot, that has not for a long time been propagated by some method other than the seed, to a greater or less extent. Nature abhors imbeciles and sickly creatures, and has her troops of obedient servants in all parts of the earth which she employs to remove them from her sight. Let us remember that all her purposes are fashioned by the highest Wisdom.

I have never seen this fungus upon our native species of the plum and cherry, except in old

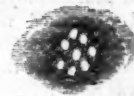


Fig. 4.

fence-rows where they had become sickly through repeated attempts to exterminate them with the bush-hook, and where the suckers would still persist in encumbering the ground, though they had so far degenerated as to be incapable of assuming one-tenth of their normal size. In such places I have seen it on all our species except the Beach-plum, which is probably protected by the salt atmosphere peculiar to its locality. These excrescences split up the bark of the tree, forming admirable places in which insects may deposit their eggs, and which they are not slow to discover; but out of scores of specimens examined, I have not been able to find either their eggs, or larvae, except in old and partially effete ones; yet that they themselves are subject to the depredations of insects, I have not the slightest doubt; it would be a wonder were this not the case.

### Are Earth Worms Injurious?

A. Beebe, Medina Co., O., writes to the *American Agriculturist* as follows: "In three instances where my garden had been treated freely with stable and barn-yard manure for a series of years, and thoroughly worked—never when too wet—angle worms, in a measure, destroyed its productiveness, and added more than twenty-fold to the labor of working it. In the spring plowing and spading, I have often plowed up and thrown out bunches of angle worms nearly as large as a man's double fist, where there was not as much as a spoonful of dirt among them. I think that all over my garden, the weight of the worms was fully equal to the weight of one-twentieth part of all land stirred by the plow. The land would plow moderately mellow, with some lumps. But three days

of sunshine after a smart shower, would render the ground almost as hard as a well-traveled road. But little impression would be made upon the ground by striking with a hoe as hard as it would bear without breaking. It was necessary to use a pick to get sufficient dirt to earth up potatoes, and after an immense expenditure of labor, they were worthless. This was also the case with cucumbers, squashes, pumpkins, beets, carrots, and parsneps. After two or three years' trial I suspected the cause, and seeded to clover, which produced an enormous crop. The third year after seeding I plowed again, and had good mellow ground to work, and an excellent garden. The land was a mixture of clay and gravel, with good natural drainage, the clay predominating—good land for wheat. I presume there are hundreds of highly manured gardens in Western New-York, rendered unproductive, indurated, and spoiled, by angle worms.

**REMARKS.**—Unless it can be shown that clover expels worms from land, the above experiment would merely indicate that the naturally heavy soil had been ameliorated and made more friable by the clover roots. The large amount of vegetable matter left in the earth by a good crop of clover, acts very efficiently for this purpose. We can not consider the experiment conclusive as to the hurtfulness of earth worms.—Ed.]

For the American Agriculturist.

#### Turning Losses to Profit.

Some time since I had occasion to pass by one of my neighbors, and found him employed in skinning his only cow. I expressed my sympathy for him. He good-humoredly replied that with every loss there was some profit; that feed was very scarce, and he was now relieved from all further trouble on that account; and furthermore, he could now pocket the money for the hide, which he could not have done had the cow lived. While musing on the calm and considerate philosophy he manifested under his loss, it occurred to me I had a similar case at home, and whatever consolation there was in my neighbor's system of financial ethics, I had a right to appropriate the benefit to myself. It is, perhaps, more or less true of every rural district in the Western States, that in them are found a few little-souled American farmers, who are not content with the annual income of their own farms, but appropriate the streets, lanes, and all other open lands of the neighborhood, as summer range for their flocks or herds.

But I now come to the point. Several years since I purchased some sheep from a distance, and in this purchase I innocently, but unfortunately, as I then thought, found I had introduced on my farm that bane of the ovine race, the *Foot-rot*. As soon as I ascertained the fact, I gave notice to my neighbors, promising to confine my flocks to my own premises, and frankly and pointedly stating the risk those would incur who would permit their flocks to roam over the country without restraint. To me this miserable disease was a source of anxiety, labor, and loss; but in the improved morals of trespassers, and to the public at large, it proved to be great gain. From thenceforth every man's sheep were kept at home, where they should be, and the neighborhood was thus relieved from this vexatious annoyance. I do not claim any patent right for my discovery in thus converting men into better citizens, neither do I claim much credit for my disinterested benevolence in the case referred to; but my ex-

perience suggests that, because the teachings of the Bible fail in indoctrinating all men in the first principles of practical morality, such cases should not be despaired of as hopeless. And where the conscience can only be reached through the breeches-pocket, every reader must determine for himself when it is expedient and proper to submit to a similar inconvenience and loss, that a greater gain may be secured to the whole community of which he is a member.

Moor's Salt Works, Ohio, February, 1863. G.

[We of course do not recommend the introduction of the foot-rot as a means of improving the morals of a community. We knew of a man who put broken glass into the road ditches and "mud-puddles" along his farm, to keep his neighbor's hogs from wallowing there. His own swine playfully jumped into one of these puddles, and one nearly severed his foot in two upon the sharp edge of a broken junk bottle, rendering him partially crippled for life. Kindness, patient reasoning, and the inculcation of good principles, and neat habits, and a spread of improvement, by introducing books and papers treating of agriculture and horticulture, will be the cheaper and better mode in the long run.—Ed.]

#### Analyzing Soils and Plants.

W. L. Robbins, of Suffolk Co., N. Y., thinks it would interest other readers of the *Agriculturist* as well as himself, to have published a table showing the chemical constituents of the different kinds of farm produce, so that the cultivator, by having his soil analyzed, could raise in rotation that class of plants best suited to it. There are plenty of tables of this kind, such as they are. Johnston's *Agricultural Chemistry* is full of them. Ten or twelve years ago we printed a large Chart closely packed with these kinds of analyses, but now esteem them of little practical value. By the aid of chemistry we are able to know to within a hundredth part of a grain the composition of soils and their products, yet we can make little use of this knowledge. For illustration, we know that the ashes of wheat contain a large amount of phosphoric acid, and turnips but little, yet an application of phosphates to the soil does very little good to a wheat crop, while the superphosphates are the great turnip manure in England. This subject we discussed at some length in Volume XIX, pages 105-6, (1860).

#### Start the Tomatoes Early.

Those using hot-beds will have their plants up by this time. Those who have no hot-beds can yet gain some weeks by starting them in pots or boxes in the house. After the plants are up and have made two or three rough leaves, transplant them into small pots, and give them plenty of light and air. The small thumb-pots may be used for the first potting, and as they are so small that they readily dry out, a number of them may be placed in a box and surrounded by moss, saw-dust, sand, or anything that will retain moisture. When it is found by turning out the ball of earth that the roots have filled the pot, they may be shifted to those holding about a pint, taking care all the time that the plants have abundance of air and light, and grow stocky. They may be kept in their pots until all danger of frost is past, when they are to be planted out by turning out the ball of earth from the pot. The directions for after-

culture will be given at the proper season. Earlier and better fruit is obtained upon light and sandy soil than from a wet and heavy one. The small pear-shaped and the smooth red varieties are the earliest. The Fejee is a few days later, but is so much more prolific and finer every way, that were we confined to one sort we should choose this. From a single year's experience with the French Upright, or Tree Tomato, we think well of it. It is a very compact and dwarfish variety, bearing its fruit close to the main stem. It needs but a single stake to keep it from being blown over, and as it can be planted as near as 15 or 18 inches, probably as much fruit can be got off the same space as from any other variety. It must be started very early, as the fruit is a little late, but it is very solid and, according to our experience thus far, every way desirable. Those who have no gardens, but have room in the yard to set a barrel or two, can obtain a supply of Tomatoes with a little trouble. John A. Briggs, of Franklin Co., Mass., writes: "Take a flour-barrel, knock out both heads, saw it in two in the middle, place the halves in any vacant place, fill about two-thirds full of earth, and manure and set your plants in them, and you will find your plants, if attended to, will do as well as in any other place. The writer of this has practised this method for the last three years with perfect success. None need want for this delicious and healthful fruit unless they are too indolent to try the experiment." The plants grown in this way may be watered with waste water from the kitchen.

For the American Agriculturist.

#### Sweet Potato Culture.

One page 6, January No., you say sweet potatoes will pay when planted south of 42°. To show that you are correct, I give you the result of a measured plot. From 13 rows, 3 feet apart and 100 feet long, I gathered 43½ bushels of fine potatoes, 36 bushels of merchantable potatoes, and 7½ bushels of small ones to use for seed.

**Mode of Culture.**—To cultivate with success, select a sandy soil if possible; if not, then the driest location; *don't move the ground* under the hills or ridges formed for setting the plants. If hills are made, deposit a shovelful of manure on the ground, draw the earth up over it forming a hill 10 or 12 inches high, leaving it a little flat on top and it is ready for the plant. If planted in rows, strew manure (half rotten will do) on the ground every three feet, same as for Irish potatoes. Manure don't hurt them; leave the base under the manure about a foot wide undisturbed. With plow, spade, or fork, make the earth fine between the strips of manure, and throw it on the manure into a ridge 10 or 12 inches high.

Rake off the ridges so as to leave them flat and about 3 inches wide on the top: they are then ready for the plants. The ridges may be made ready long before it is time to set the plants. Setting time from May 10th to middle of June, the earlier the better when danger of frost is over.

When the vines begin to run, lift them two or three times, and lay on the top of the ridge. Keep down all weeds; an 8-toothed cast-steel rake is best to dress the sides. Rake the earth from the bottom to top of ridge to cover and smother the weeds. Run the rows north and south if possible. Planted on *hard ground* they grow thick and chabby, but on soft ground they grow long, thin, and comparatively worthless.

**Keeping.**—After the first frost, dig on a dry clear day, handling with care. After drying a



few hours pack in barrels or boxes alternate layers of short dry or cut straw and potatoes, and move to a warm room or dry warm cellar; if to a cellar, keep up from the floor and off from the wall. With such treatment they will keep eight or nine months.

J. C. THOMPSON.

Staten Island, N. Y.

### Early Peas.

In this latitude these may be sown the middle of April, and in some seasons, even by the first of the month. The young plants will endure a pretty severe frost, and may even be covered by a late snow without injury. A warm, dry, rather sandy spot, which last year bore some well-manured crop, should be selected, and if protected on the north by a tight fence or wall, so much the better. Lay off the rows  $2\frac{1}{2}$  to 3 feet apart for the taller kinds, and 1 to 2 feet apart for the dwarf sorts. We prefer a somewhat scattered drill for the dwarf, and even for the tall growing sorts. This is made by scooping out the width of a garden hoe, and about two inches deep. Some prefer a single, narrow row, and others plant in double rows 6 or eight inches apart. If the seed is soaked for 24 hours before planting, in tepid water, they will come up much sooner than when sown dry. Cover with a hoe or rake, and after they are up, keep the ground well stirred and free from weeds. The kinds which need support, should be furnished with brush when they are a few inches high, and before they get so tall, as to fall over. A few short rows may be forwarded by a little extra care. Have the rows run east and west, and set up a board upon the north side; this will reflect the sun in the day time, and may be laid over the plants, upon blocks or other supports, at night. In this way the peas will be protected from frost, and the heat the ground has received during the day be retained. Some go to the trouble of making a more complete covering by nailing together two boards, as for a trough, or gutter: this can be put by the side of the plants by day, and at night is turned over them and forms a complete roof. The early varieties are numerous; for the tall growing sorts we have found the Daniel O'Rourke and Princess perfectly satisfactory. The Washington and European are also good early sorts, and recently a variety called the Electric has been introduced, which is claimed to be the earliest kind. We are each year more in favor of the dwarf varieties, as the laborious operation of bushing is dispensed with, and they can be planted much nearer together. Tom Thumb is a good early and remarkably dwarf sort, but as a variety for the family garden, it has the disadvantage that the pods all come to maturity about the same time. Bishop's Long Pod is an excellent sort, as is the Prolific or Strawberry, but neither of these are among the very earliest.

### Large Sugar Beets for Stock or Sugar.

The March No. of the *Agriculturist* contains some information on "Beet Sugar," by Prof. Mot, of Ohio. Having made some experiments on beet culture, my experience may be of service to many of your readers. On a plot of ground 38 by 57 feet, planted in June (too late by two months) the product was, by actual weight, 4,226 lbs. They were planted 18 inches by 2 feet—should have been 2 feet each way. This is the secret of success. They want space, light, and air. Manure and prepare the ground

deep and thoroughly the last of March, or as early in April as possible—*frost don't hurt beets*. Drop two good seeds every two feet. Where the plant is large enough, thin out to one, leaving the best plant. I haul the earth around to steady them—cultivate well, and keep clean. I found where self sown seed (dropped from seed beets) came up very early and were left singly to grow where they started on good ground, by digging the ground up around them they would grow to over 30 lbs. each.

My neighbor, Dr. F. Hallick, grows them for stock. In 1861 the seed came up badly and left them thinly scattered: many reached 20 lbs. each. In 1862 he planted 18 inches by 2 feet. This crop averaged 13 lbs. each. This Spring he intends to plant 2 feet each way. Remember to plant early. Deep culture, and good ground are essential to get a fine crop. Do not pull off the under leaves—it stops the growth of the beets, and pock-marks all the remaining leaves.

Staten Island, N. Y.

J. C. THOMPSON.

### Early Sowing.

A few bright, warm days, such as always occur the latter part of April, are usually sufficient to bring on an attack of the planting fever. The garden must be plowed or spaded, beds laid off, and in go the beets, carrots, parsnips, turnips, etc. They find a cold bed, the soil is packed over them by repeated rains, and many of the seeds rot outright, or the slender germs fail to lift the heavy soil pressing upon them. It is far better to leave sowing most seeds until the ground is dry and warm. A few of the hardy sorts, such as early peas, potatoes, onions, lettuce, tomatoes, radishes, spinach, salsify etc. may be put in during the month of April, but May 15th is sufficiently early for the generality of seeds. They will then come up quickly and grow rapidly; every one knows, that a quick grown vegetable is far better than one which has taken a whole season to mature. Beets for late fall and winter use do best when sown from the first to the middle of June.

For the American Agriculturist.

### The Yellows in Peaches.

BY E. E. CHAPIN, HAMPTON CO., MASS.

The yellows, though easily distinguished by the weak, sickly sprouts with yellow leaves, from which the disease takes its name, seems to be a malady of the nature of which but little is yet known. The most intelligent cultivators who have written upon the subject can give no other remedy than the severe one of destroying the tree, root and branch, as soon as the disease makes its appearance; the remedies of hot water and hot ashes already proposed by some of your correspondents would certainly seem preferable to this, for if they should destroy the tree they would kill the disease with it, and it is quite possible that a cure may be effected in this way without destroying the life of the tree; my reason for thinking so is this: I noticed the yellows had made their appearance upon a young tree that had just ripened its first fruit, about the 1st of September last. I immediately began to examine closely, and found that the twigs presented nothing unusual; there was about a foot of well-ripened wood, with large dark-green leaves, but upon the body and main branches was a large number of sickly yellow sprouts, most of which were already dead at their ends, though they could not have been more than three or four weeks in growing.

The bark of the tree was good, although it had a rather dry, feverish appearance. On digging away the soil at the root there was not the least appearance of any grubs, the bark was perfectly smooth and to all outside appearance healthy, but on applying the knife, to scrape away a little dirt, I was surprised to find that the outer bark would scrape away as easily as a piece of horse-radish, and disclosed much the same appearance underneath. There was, between the outer and inner bark, a coating of whitish substance, very brittle, full of sap, and easily scraped away, and about one-fourth of an inch in thickness at the thickest part, which was about an inch below the surface of the ground, and extending completely around the collar, there being no appearance of it above the surface, and a gradual decrease, as it went down, until there was little or none at the depth of seven or eight inches. After scraping away all of this substance that could be found, leaving the inner bark exposed, I placed fresh soil around it, and then cut away all the yellow sprouts. The tree appeared perfectly well afterwards, and retained its leaves fresh as late as any others. When a tree has such a covering as this one had, I can readily believe that boiling water or live coals, sufficient to destroy the life of a healthy tree, might be applied, not only without injury, but with benefit, if it should slough away the parasitic growth.

### What Apples to Plant.

The Fruit Growers' Meeting at the *Agriculturist* office have recently given the above subject special attention. Lists were submitted by experienced cultivators, and votes were taken in the same manner as has previously been done with pears and grapes. The following list by Parsons & Co., for 15 varieties for an orchard of 50 trees, was almost unanimously adopted.

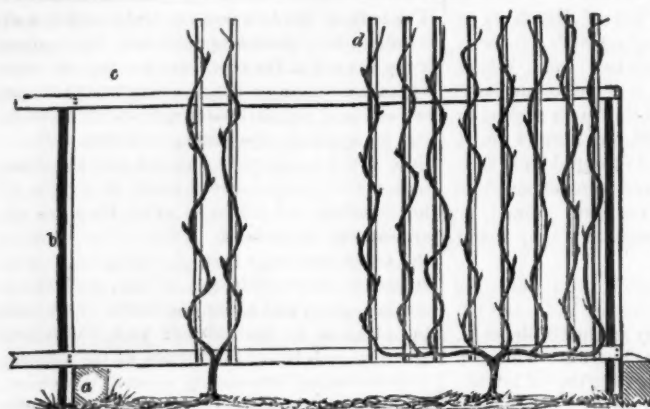
SUMMER.	WINTER.
Yellow Sweet Bough.	Jersey Sweeting.
Yellow Harvest.	Rhode Island Greening.
Primate.	Hubbardston Nonsuch.
Red Astrachan.	Baldwin.
AUTUMN.	
Gravenstein.	Peck's Pleasant.
Porter.	Roxbury Russet.
Fall Pippin.	Newtown Pippin.
	Talman Sweet.

One or two persons thought the Roxbury Russet and Newtown Pippin did not succeed well enough in all localities to be universally recommended. For those who wish to plant largely, Mr. Carpenter, who has an orchard of 30 acres in Westchester Co., proposed the following 20 varieties, with the numbers for 1000 trees.

SUMMER.	WINTER.
25 Primate.	50 Hubbardston Nonsuch.
15 Sweet Bough.	50 King Tompkins Co.
12 Yellow Harvest.	25 Talman Sweet.
50 Summer Pippin.	25 Dutch Mignonne.
10 Summer Queen.	200 Baldwin.
10 Red Astrachan.	200 R. I. Greening.
FALL.	
50 Gravenstein.	50 Smith's Cider.
3 Jersey Sweet.	25 Peck's Pleasant.
50 Porter.	25 Melon.
25 Fall Pippin.	100 Po'keepsie Russet.

For special localities, where they are known to do well, he would recommend Newtown Pippin, Esopus Spitzenberg, Northern Spy, Hawley and Swaar. Also as apples promising well: Hicks, Belle et Bonne, Jeffries, Drap d'Or, Mother, Summer Bellefleur, Vermont Strawberry, and Vermont Beauty.

The above lists refer to this vicinity, though most of the apples do well in all parts of the country. The best general information upon varieties adapted to different sections, will be found on page 147 of our last volume (*May Agriculturist*, 1862); and in the reports collected from the whole country as published in several numbers of volume XX (1861).



Grapes—Trellises—Strawberries.

## INTERESTING TO GROWERS OF SMALL FRUITS.

Rev. J. Knox, of Pittsburg, Pa., whose extensive culture of strawberries perhaps entitles him to be called the "Strawberry King," is also pretty largely engaged in grape culture. We do not quite share his enthusiasm in regard to the Concord Grape, which he claims to be the grape for this country, but he confidently predicts that we shall have to come to it after the results of a few more years are seen. During his recent visit to the *Agriculturist* office we gathered some particulars concerning a grape trellis, which he devised and has extensively used, and his mode of growing grapes and strawberries together. The foundation for the trellis is made by setting locust, or other durable posts, at a distance of 12 feet apart. These posts, *a*, are 3½ feet long, and are set 2½ feet in the ground. To these are spiked uprights, *b*, made of hemlock scantling 3x4 inches, and 6 feet long. The horizontal strips, *c*, sawed out of pine stuff, are 1 inch thick, and 4 inches wide. Mr. Knox uses them 24 feet long, so as to reach across two sections of the trellis, but where it is more convenient, they may be made 12 feet in length. The slats, *d*, are of pine, 1x14 inch, 8 feet long, and are fastened, 9 inches from center to center, to the horizontal strips, *c*, by a single 8d nail at each. The trellis may be put up at the time the vines are planted, or the posts may be set then, and the rest added as needed. The slats need not all be put on until the third year. Mr. Knox prefers to plant vines only one year old from the eye: these are cut back to a single bud, the shoot from which is tied up to a stake, and allowed to grow as long as it will; during Summer the laterals or branches are pinched off to one leaf. In the Fall this cane is cut back to two buds, which the next season is treated as before, and kept tied to stakes or to two slats upon the trellis, as is represented in the left-hand vine. At the close of the second season the vine has two strong canes, which are shortened to 3 feet each, and in the Spring of the third year are trained out horizontally to make arms, as in the right-hand vine. The wood formed the third year is trained to the slats, and afterward pruned upon the renewal or spur system, as may be desired. Mr. K. prefers the renewal plan, but deviates from it when necessary, to keep 48 square feet of trellis covered with the bearing wood of one vine. The trellises are placed 8 feet apart, and the intervening spaces are occupied by strawberries, which he finds do not interfere with the grapes, and are benefitted by the shelter which the vines afford. At 2½ feet from the grapes a row of strawberries is planted; this one is followed by three other rows, a foot apart, which will leave another space

of 2½ feet to the next row of grapes, giving four rows of strawberries between each two rows of grapes. The two outside rows of strawberries are allowed to make runners, which root in the space left next the grapes, while the runners of the other rows, and all those from the outside rows which run in toward the other strawberry vines are carefully taken off. The runners which are left

to grow, furnish a supply of plants for market the first Fall after planting, and thus a paying crop is taken from the land the first year. The next year a crop of strawberries is obtained, as well as other vines from new runners. By pursuing this method, Mr. Knox makes the land produce returns every year, and thinks that by arranging in this way, the strawberries will pay for the whole expense of the grapes—purchasing the vines, preparing the soil, and cultivating until they come into bearing.

## Propagating the Grape.

Mr. J. Borland, of Bucks Co., Penn., having been very successful in propagating the Delaware grape by grafting, the Fruit-Growers'



Fig. 1.

Meeting requested him to communicate his method. Mr. B. very modestly disclaims any originality in the matter, and says that he was induced to try the plan from having seen it noticed in the *Agriculturist* for March, 1862. A set of specimens illustrating the process was sent, from which we have had engravings made that will enable our readers to easily understand the manner of working. The cions, which should be cut when the vine is quite dormant, have two buds to each: the lower end is cut wedge-shaped, with the lower bud at the base, or broad end, of the wedge, as shown in Fig. 1. The



cions should be of one-year-old wood, while the wood into which they are grafted may be two or more years old. A branch, which can be readily laid down, is selected and split quite through, at intervals of

each joint. The wedge-shaped ends of the cions being inserted in the branch as in Fig. 2, it is then laid down and buried in the earth, leaving the upper bud of the cion just above the surface. Mr. B. prefers to do the grafting about the 20th of March, but it may be done at

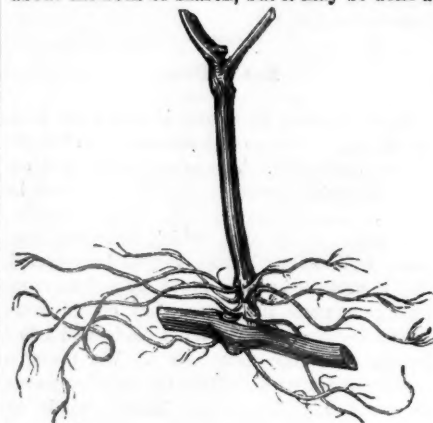


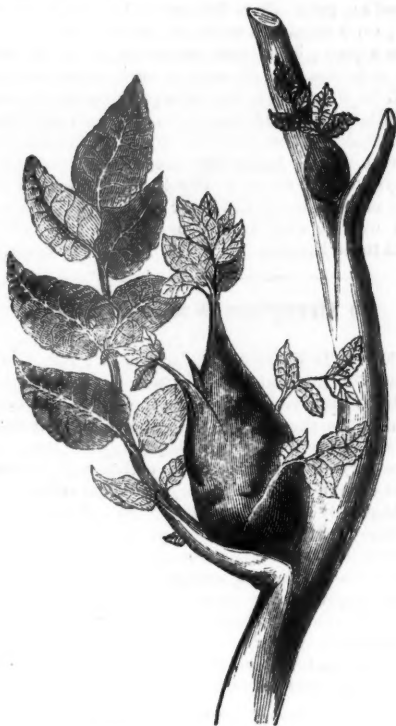
Fig. 3.

any time before the sap starts. In the following Fall or Spring the branch containing the grafts may be taken up and cut off near the new vines, which will now be well rooted, and able to take care of themselves. Fig. 3 represents a vine which was grafted last Spring. This method has been very successful with the Delaware, which is difficult to propagate from cuttings in the ordinary way. It can hardly be called grafting, as the old stock is of no use after the first year. The union between the stocks and graft is very slight, but sufficient to afford sustenance until the cion makes roots of its own, which it does very freely. When the new plant is removed, the stocks may be cut off quite close to it, or even removed altogether. The plan is worthy of the attention of those who have vines of any inferior quality, and wish to replace them with choicer sorts. Mr. Borland is very successful in grafting the Delaware upon old roots. The vines are "cut off 6 or 8 inches under ground, split in four pieces, and the grafts inserted. If the grafts are likely to be pinched, put in wooden wedges, tie up with waxed cloth, and earth up within one inch of the top bud of the graft."

## Late Pears Profitable.

We have this day (March 4th) seen two barrels of Vicar of Winkfield, and half a barrel of Glout Morceau pears in a fine state of preservation, with every indication that they will keep a month longer. They were raised by W. S. Carpenter in Westchester Co., N. Y., picked late, and packed in unwinnowed oats. They were then kept in a cool place, and are now in a common cellar in this city with apples and potatoes. Mr. Carpenter is eminently successful in keeping pears, and finds it pays well. He is now offered \$1.50 per dozen for his Glout Morceau, and the Vicars would probably sell for \$20 per barrel. Such results indicate that it would be profitable to give more attention to winter pears. They can only be found on sale at a few of the fruit stands, at this season of the year, and bring enormous prices. Doubtless there is much yet to learn regarding the best method of keeping fruit, though there has been much light thrown upon the subject during the past few years. Let us have more light, and—more winter and spring pears. (P. S. March, 11th. The Vicars sold to day at \$35 per bbl.)





What is the Potato?

It has already been hinted on page 53 of the *Agriculturist* that it is not a root, as ordinarily supposed, but a kind of branch. We now propose to give some of the reasons for considering it a branch, without stopping to show how it is unlike a root. At first sight it appears to have little in common with the stem as we ordinarily see it, yet a careful comparison of the two, will perhaps discover resemblances which were not before noticed. Many persons suppose that botanists are chiefly engaged in giving hard names to plants, while the fact is they are mainly occupied in studying the plan upon which plants are made; they find that all the great variety which vegetation presents can be reduced to a few simple forms—the root, stem, and leaf, and wherever a part may be or whatever shape it may assume, the keen eye of the skillful botanist penetrates the disguise and finds out its real nature. The potato, being as unlike a branch as well can be, will serve to illustrate the manner in which these resemblances are traced out. In the first place the potato grows under ground. Every thing that grows beneath the surface is not a root, nor are roots always under ground, as every one who has hoed corn will have noticed. When we lay down a grape vine or a shrub, the layered portion is not a root, nor are the natural layers which rose bushes, and many other plants which spread in this way, make. The potato is the end of an underground branch, modified for a particular purpose, to serve which it becomes filled with starch and hence serves as an important article of food. Let us take for comparison a twig of an apple tree and see if it has anything in common with the potato. At this season the apple twig has no leaves, but the scars, or places, were they were, are plainly to be seen, and directly above these are the buds which will produce the branches of the next season—each scar being separated from the next by a length or joint of stem. Aside from the fact that the potato, as it grows under ground does not need to have strength and is not woody, but fleshy, we find that both have these peculiarities. The

buds on the apple stem are represented by the "eyes" in the potato, and branches proceed from both. The potato growing under ground has no use for leaves, but a little scale or wrinkle just under the eyes stands in place of them. These scales, which are more prominent in some varieties than in others, are best seen at the "seed end" of the potato. On page 53, the spiral arrangement of the eyes of the potato was noticed, and this can also be found on the apple twig. Perhaps the strongest proof that the potato is really a branch, is found in the fact that sometimes the above-ground branches become quite like the potato in size and shape and everything but color. We have seen instances in which every graduation could be traced between ordinary branches, having leaves, and fully developed potatoes without leaves. The engraving is from a drawing made some time ago by Mr. Ed. M. Prutman of St. Joseph Co., Mich., and represents one of these branches which grew about a foot from the ground. It will be seen that it is intermediate between a potato and a branch. It is short and fleshy like a potato but bears leaves, and these leaves come exactly in the place of the scales upon the potato.

#### Perennials for the Flower Garden.

Every garden should have a good stock of reliable herbaceous perennials, which as a class have been much neglected of late for the more popular and more expensive bedding plants. Once set out, these plants need no other care than lifting and dividing when the roots get too large. They may be planted as soon as the frost is out of the ground and will do all the better if the crowns are covered in winter with coarse stable manure. A friend of large experience has prepared at our request a list of 20 varieties which comprises a variety in color and time of blooming. To save answering inquiries we will say that we have none of these for sale, but they can be had at the principal nurseries.

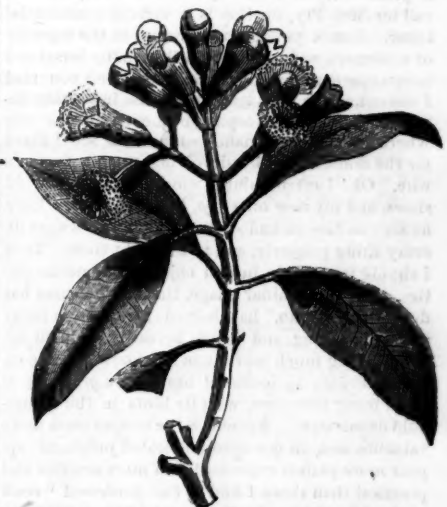
*Arabis alpina*.—Flowers small, in clusters, pure white, six inches high; blooms in April. *Achillea Ptarmica, plena*.—Flowers double, pure white, 1 foot high. June. *Baptisia caerulea*.—Fine blue flowers; 2 feet high, May and June.—*Var. alba* with white flowers. *Campanula coronata*.—Flowers clear white, semi-double, abundant bloomer; 1 foot high, June and July. *Campanula grandiflora*.—Large deep blue flowers, 2 feet, May and June. *Clematis serratifolia erecta*.—Flowers white, in long clusters, 3 to 4 feet, May. *Clematis integrifolia*.—Flower large, dark blue, bordered with white; 2 feet, last of May and 1st of June. *Chelone barbata*.—Fiery scarlet, borne on a long stem, 4 feet, June and July. *Carnations* (hardy).—In varieties. *Dicentra spectabilis*, (often improperly called Dielytra).—Rosy crimson, one of the best border plants, 1 to 2 feet, May and June. *Delphinium formosum*.—Deep azure blue, with white center, 2 to 3 feet, June and July. *D. Sinensis*.—Bright blue, foliage quite distinct from the above, 2 feet, June. *D. Sinensis alba*.—Like the preceding but white flowers. *Geranium Alyssum*.—Flowers large, bluish purple, 8 inches, July. *Iris nana*.—Bluish purple, 6 inches, May. *Iberis Tenoriana*.—(Hardy perennial candytuft).—White, 8 inches, April to July. *Lychnis Chalcodonica pleno*.—Double scarlet, 3 feet, June and July. *Phloxes* in variety. *Phlox verna*, a fine trailing species with large pink flowers, should be admitted in to the smallest collection. *Pentstemon Digitalis*.—White, slightly tinged with purple, 3 to 4 feet, July. *Spiraea Filipendula ple-*

*no*.—Flowers very double, pure white, 1 foot, May and June. *Spiraea Japonica*.—White, distinct and really beautiful, 1 foot, May. *Spiraea lobata pleno*.—Fine red, strong grower, 2 feet, June. *Veronica spicata*.—Deep blue, 1 foot, June and July. *Veronica alba*, similar to preceding, but with pure white flowers.

## THE HOUSEHOLD.

### Cleaning Clocks—"Cooking Time."

"Necessity" writing to the *Agriculturist* from Sand Beach, Mich., says: "Should any readers be situated as we are, in Huron Co., out of the reach of civilization and 'clock tinkers,' and their brass time pieces refuse to be time pieces, for want of cleaning, the following may be of use: Unscrew the metal from the case, and boil the wheel works half an hour or so in soap suds, and then five minutes in clean water, drying off quickly. This will clear out dust and hardened oil, and the clock will be ready for resuming its daily duties." [As a last resort, this may answer well for clocks moved by weights. The boiling might injure the temper of the springs of those having this motive power, though perhaps not, and there can be no loss in experimenting with a clock that has ceased to be good for anything. A very thin coat of limpid oil, or even of fresh lard, if the oil be absent, should be brushed over the entire works with a feather, as soon as soon as dried from the water, to prevent the steel pinions from rusting. A very little oil stirred into the last cleaning hot water might answer.—Ed.]



About Cloves and Allspice.

Cloves are produced by a tree which is a native of the Molucca Islands, and were like nutmegs a long time under the exclusive control of the Dutch government, who for many years would not allow the trees to grow upon any except the island of Amboyna, from whence the highest priced cloves still come. The tree is from 15 to 30 feet high, with large aromatic leaves and bunches of very fragrant flowers. The spice is the unopened flower-buds, which are beaten off by means of rods and then dried. The little ball at the top of the clove is the unexpanded petals; by softening the clove in hot water these can be carefully laid open by means of a pin. The main portion of the clove is what would be the fruit were it allowed to go on and ripen. Our word clove, comes from the French *clou*, a nail. That being the name by which the French call them on account of their resemblance to a little nail. They contain a good deal of volatile oil, upon which their value depends. This oil is sometimes extracted in part and the cloves afterwards sold. These can be told by their lighter color and by having the buttons or rounded portion broken off. Cloves readily

absorb a considerable amount of moisture, and it is the custom of large dealers to keep them in a rather damp place in order to make them weigh heavily and look fresh and plump. It is bad economy to buy cloves or any other spice in the ground state as, aside from the risk of adulteration, the oil is absorbed by the paper in which they are put up.

Allspice is from a tree, nearly related to the clove tree; it grows in the West Indies where it is largely cultivated for the spice, which in this instance is the fruit. The berries are gathered when green, for if allowed to remain on the tree until ripe they have an unpleasant flavor. It is also called Pimento, and Jamaica pepper. The name allspice was given because it was thought to have the flavor of cloves, cinnamon, and nutmegs combined.

### Letter from a Housekeeper.

[The following letter we print for several reasons. It reveals some of the difficulties experienced, by those especially whose proper training for woman's sphere has been omitted. It is in this respect a fair sample of hundreds of letters we receive, and the writer and others will notice that more questions are propounded in this single letter than we could answer in an entire paper, while there are some queries that we can not answer at all, such for example, as how to "do up" linen like that bought ready made. Perhaps some of our fair readers can aid Mrs. Pry. We care not how many such letters are sent in—the more the better—for we like such plain, natural revelations of the difficulties experienced, and the wants of our readers, that our columns may be adapted to meet the necessities of the greatest number possible. Mrs. Pry will excuse us for making practical use of her "confidential letter," as we suppress her real name.—Ed.]

Washington Co., N. Y., March 3, 1863.

MR. EDITOR:—I have no ambition to see my name in print, so if you make any reference to my queries, call me Mrs. Pry, for this is a strictly confidential letter. I am a young housekeeper, in the capacity of a farmer's wife, and you will readily imagine I have experienced some trials, when I tell you that I never had the least training in the important department of housekeeping, not even in the city where I was reared, mainly—much less was I fitted for the domestic affairs devolving upon a farmer's wife. Oh! I often think I would give all my old shoes, and my new ones too, if I could only "keep ahouse" as Mrs. so and so does, those who always do every thing properly, and at the right time. Then I should take pride in and enjoy my domestic duties. But the familiar adage, that "what man has done, man can do," has helped me through many an undertaking, and it will hereafter help in accomplishing much more than I am now capable of. The *American Agriculturist* has been a great help to me in many instances, with its hints in the household department. Somehow the recipes seem more valuable, and, to my unsophisticated judgment, appear more plainly expressed, and more sensible and practical than those I find in the professed "cook books," for these usually describe expensive fancy dishes and in larger proportions than we actual housekeepers dare venture upon with our small families, and in these latter days when economy should be practised. We like, it is true, to have something nice once in a while, by way of variety, but some how in following the cook books I get the expensive but not the nice. There are some housekeepers who seem to have the knack of always presenting before you the most simple food, invitingly, cooked just enough, and none too much. I am ambitious to acquire that "knack." Others get up a variety of expensive dishes, but each one is accompanied with an apology for its not being quite right.

Since I have been a housekeeper, I have often greatly wondered why it is that so many mothers suffer their daughters to grow up so ignorant of the very department they hope and expect them to assume charge of. I am not alone in this feeling, for I find others around me who acknowledge that they have actually shed tears over their own ignorance. You will smile, perhaps, when I tell you that as I look upon my two infant daughters, I often think how much I will do in their training to relieve them of future embarrassment.

Those soap recipes in the last *Agriculturist* came

in good time: I had previously understood (from the hired girl I believe I learned it,) that only half as much potash was required as of grease, and so in attempting to teach my new girl, I found that something was wrong, but could not tell what. Following the paper we added more potash and have it all right.—Last Summer I canned some stewed tomatoes, but owing to my own failure, or the cans (Bodine's) some of them proved defective. Before the preserving season arrives again, please give your plan.—As I said before, we like to have the good things sometimes, and though you may suggest that it is not very healthy, I would like good practical directions for a Fruit Cake, and for Pound Cake, of family size; also further hints for making and putting on icing; also to know what kind of instrument bakers use in putting on the ornaments; also the process of polishing linen shirts and collars as they are when we buy them new. I have understood that it was done by an iron specially constructed for the purpose, but have inquired in many places for such an iron, in vain.—Had I room I could tell you of many suggestions in the paper that have helped my husband in his business. We would gladly aid in extending the circulation of your paper, but that is not possible, as most of our neighbors take it already. But I have consumed too much of your valuable time already, so with many good wishes for your welfare, terrestrial and celestial, I will sink in to the silent

MRS. PRY.

P. S.—I have attempted some corrections in the above, to fit it for a critical editor's eye, but can not make it all right. I have written with one foot on the cradle, and constantly been responding to the many questions of the eldest little daughter, who sits beside me, watching my inkstand the meantime as if tempted to try some mischievous experiments with it. You can not know how to sympathize with me unless you have experienced the same trouble in writing. [Oh, yes we can; we rather enjoy a little flock of such troubles—sometimes at least.]

### Shoeing a Family—Western Life.

[The following letter from Cedar Co., Iowa, may furnish a useful hint, while it will be interesting as giving an insight into the economy practised by the pioneers who build up for themselves homes in the far West. We know by early experience something of this. Those boys and girls who wear home-made shoes and patched garments, and are brought up to habits of labor and economy, away from the corrupting influences incident to cities, villages, and densely populated neighborhoods, will turn out the effective men and women.—Ed.]

To the Editor of the *American Agriculturist*:

In the January *American Agriculturist*, pages 21-2, you ask "if any one can tell how to keep children in any kind of shoes that will cost less than about a dollar a month for each youngster?"—I can. In 1860 I bought a pair of shoes for my oldest child, a girl of ten, that cost \$1.25, but did not last a month. This was hard, with so little money as we had; so I cast about to see what could be done. I found a neighbor making over his boot legs into shoes for his children, and acting upon the hint, I got a friend handy with tools to make me 7 lasts, one for each member of my family, paying him 10 cents each, (70 cents). I next procured paper patterns; bought a hammer, awls, pegs, and thread, for 65 cents—in all \$1.35. Bristles I stole from the hog's back; clamps rigged out of a 2x4 inch piece, and two staves. Went to work upon the old boot legs. First pair of shoes pegged so fast to the last as to be nearly ruined in getting them off, but experience taught me better next time. With more practice, I can now get up a shoe that a Massachusetts woman is not ashamed to wear. I reckoned the saving the first Winter at \$14; outlay, as above, \$1.35. Most of the work was done evenings. Old boot legs wear better than new leather. Two pairs of shoes thus made have already worn over six months. How many thousands of pairs of boot legs are thrown away or burned each month, that might save as many dollars.

When all the old boots in your neighborhood are

used up, get a side of kip and a side of sole leather; carry them to a workman, tell him to cut you out a good pair of boots, and make them. He will do it for less than \$2, and you have leather enough left for from four to ten pairs of shoes, of all sizes, which, with a little care, you can use all up. Try it friends, first on old boots, and then on what you please. In my family there are four girls and three boys, four of whom go to school 1½ miles. I go 3¼ miles to teach, and home every night. We are all wearing what I have made except my boots, and those I repair.

A YANKEE IN IOWA.

### To Strengthen Woolen Stockings.

Mrs. C. D. Ketchum, of Jackson Co., Wis., sends the following hint to the *American Agriculturist*: "In knitting common woolen socks and stockings, knit cotton thread in with the woolen yarn; the size of the thread to be governed by the size of the yarn. For very coarse socks, skein cotton will answer, but even in such socks, very fine spool cotton will add greatly to their durability. In old stockings, I have found every stitch of the cotton perfect after the wool was entirely worn away. The thread prevents the pulling and breaking of the tender yarn." [Query.—As cotton thread is now so costly, would not linen thread answer an equally good purpose, and even be better at any time? The above plan may be old to others, as Mrs. K. suggests, but it is new to us, and appears to be a good one.—Ed.]

### Coffee Substitutes—Another.

To the lover of strong, pure coffee, no substitute can be offered that will exactly fill its place. But there are several preparations which may be used as drink, and that answer very well where the milk or cream and sugar are the most desirable parts of the ingredients. Boiled milk, (which is always better than raw milk, for tea as well as coffee,) if well sweetened and creamed, may be flavored with a variety of essences or compounds to suit the taste of different persons, according to habit. Dandelion root is considerably used now, but it is a medicinal root, and should be reserved to use only as medicine. Chicory root burned approaches most nearly in flavor and effects to the genuine coffee, but it is not a safe drink. Continued free use of chicory will seriously affect the nerves, the digestive organs, and ultimately the whole system. We have accounts of the worst consequences resulting to chicory drinkers in Germany—quite equalling those produced by alcoholic liquors drunk to excess.

Rye, bread, corn, corn meal, barley, peas, etc., have each their advocates, and they answer a good purpose where the taste has not been confirmed for genuine coffee. Just now there are a multitude of manufacturers of "Rye Coffee," "Barley Coffee," "Dandelion Coffee," etc., and each one seems to be doing a good business. They get almost everybody to try one parcel, and this alone makes a large business. We have examined several of these compounds, some of them recommended quite strongly by those who have purchased and tried them. A careful analysis of some of the most popular "rye coffees," and "barley coffees" so called, show that they contain disguised chicory, and that they are flavored with burnt sugar. Any one using a home-made coffee of rye, barley, etc., will find a material improvement in the flavor if they smear the grain before burning with a little syrup made with sugar and water.

The best home-made coffee substitute, among all the numerous specimens recently sent to the *Agriculturist* office by subscribers and others, is a sample forwarded by Mr. Eleazer Latham, of Suffolk Co., N. Y., which he calls "Long Island Coffee." It yields a quite pleasant-flavored drink, especially when used—as we always use coffee—with a large amount of boiled milk, cream, and sugar *q. s.* The directions furnished by Mr. L. are to take coarse fresh ground WHEAT BRAN, sifted clean from flour and fine particles of bran or middlings (literally



wheat shells,) and moisten two pounds of it with about a half pint of good molasses mixed with the same amount of water. Then roast slowly in a pan until well browned. He adds the suggestion, which we think a good one, that the flavor will be improved by using sugar instead of molasses; that is, moisten the bran with sugar syrup. For use, take about double the quantity that would be required of genuine coffee. Some chicory or real coffee may be added, when a less quantity will be needed. Bran is cheap, about a cent a pound, and there is a good deal of "nourishment" in it, as well as a peculiar oil, that when roasted has an agreeable flavor. Indeed, it is the skin or shell of grain, as rye, barley, etc., that gives the chief flavor to the liquids made from them; the inner portion is mainly starch, which, when burned brown, is similar to charcoal, or the same as burned bread coffee.

Judging from several trials of the box kindly forwarded (express paid) by Mr. Latham, we think he has done good service to those desiring a palatable, cheap, and safe substitute for coffee. His suggestions about using sugar instead of molasses, is worth noting, as we detect a little of the disagreeable flavor of the molasses in the sample. We recommend the "Long Island Coffee," to general use, at least until something better is found. Several trials may be required to get the right proportion of sugar, and the proper degree of parching or roasting. A little overburning of even a small part of a batch, may render the whole bitter or disagreeable, the same as is the case with the real coffee.

### What Shall I do with the Rats?

To the Editor of the American Agriculturist.

I come to you for help. First I will state my case. I am living in the city, and I find even the rats congregate there two. They have taken possession of a house next door to me, and, having dispossessed the occupants and eaten up every thing obtainable, they come upon me in hungry swarms. They have undermined the hearth, gnawed through the floor and wainscoting and even made holes through the plaster ceiling. The question now is, shall I decamp and leave them in possession or, as my house is my castle, shall I defend it, and if so, how? I have had two steel traps set, and manage to get a young inexperienced rat in occasionally, but the old settlers wink at me from their hiding places, and even contrive to get the tempting morsels from the trencher, and escape with a whole skin. I suspect they dig through the bran under the trap, spring it from beneath and coolly walk off with the cheese or meat. They appear to be on the most friendly terms with the cat, as much so as those composing the happy family at Barnums. I do not like to poison them, fearing they will die in the walls and create a stench. Now Mr. Editor, is there not some way of getting rid of the "varmints" without leaving their dead carcasses to breed disease in the walls, or must I make the best terms I can with them and be at peace?

TABITHA.

[REPLY.—Tabitha comes to a poor source for aid, though we can abundantly sympathize with her. As we have a good many seeds about our office, house, barn, etc., the rats are of course very neighborly. The terrier keeps them within moderate bounds at the outhouses, and the cats still maintain their supremacy at the house and office rooms, but what can a cat do inside of the narrow retreats of rats and mice? We have tried traps of almost all kinds, but for every rat killed, a dozen more came to the funeral. Just now, however, we are having a respite. Two months since we bought a large box of patent "phosphorous salve" such as most druggists offer for sale as a rat destroyer. It was spread upon a large slice of bread which was cut into twenty pieces and put around where the rats "most did congregate." The pieces were all gone in the morning. The rations were dealt out again, and about half consumed or carried off. A third supply was left untouched, and the rats and mice disappeared one by one, until all were gone. Whether they are absent at a "convention" to return in ten-fold numbers we can not yet tell. A few years ago

we tried a similar phosphorous salve, and was rid of rats for six months, after which time they returned, and all the salve we could buy did not trouble them. Having occasion to move, we left them in possession. This may be the result now, but six months relief is worth the cost of at least as many boxes of salve.—Ed.]

### A Humbug "Healing Association."

A good many inquiries have been received, respecting a so-called "People's Healing Association," advertising from this city; and from what we can learn, this swindle is getting considerable patronage, though not from the readers of the *American Agriculturist*, who have been forewarned so frequently that they forward the circulars and letters to us by way of amusement. The fellow at the bottom of this, by means of advertisements and circulars, gets a silly, or nervous class of persons to forward a description of their "case" to him, and then sends back a quasi letter like the following. (The letter is a lithograph. It seems that he has too much patronage to admit of writing to his "patients," and so he prints letters off in close imitation of actual writing. Of course the directions fit each case, just as well as if written out for it—an easy way of earning \$8 for an adult, and \$3 for a child. A printed circular, with this, offers more powders for more Dollars, if the first don't cure.)

[Literal Copy] New-York City, N. Y. Febr. 18th, 1863.

Respected friend.—Your kind letter is received and your case fully examined. We find it a very bad one, indeed much more critical than you have yet believed, and if not speedily arrested you must die from its ravages.

We find the digestive organs blood liver lungs &c are in a bad state chemically and functionally causing a condition of much danger.

You may doubtless feel that death is not so near, and that you will escape. But believe us kind mortal, we know for a certainty that your doom is sealed and a fatal termination will take place before you are aware.—There is yet hope.—We find the combination of symptoms such that we not only believe, but know that you can be cured by a prompt and skillful combination of our new Remedies. As friends we beg you not to delay & thus die a horrid death when you can be saved. Send us by mail eight dollars and the remedies will be immediately sent. May God bless you and the means for your cure and happiness. In the mean time, knowing your condition—the danger of a fatal issue and the risk of a delay, we take the liberty to send in this a Remedy for you to use till you have time to send and obtain of us the full combination. This will prepare the system for the others and prevent any change for the worse for a few days. We do this for your good & at our expense, for we wish to do by you as we would have you do by us, under the same condition. Again we say do not delay.

Respectfully Yours,  
A. ACKLEY THURBER.  
P. S. We can speedily cure your child. Send \$3 dollars for him. A. A. T.

### My Bottled Fruits.

To the Editor of the American Agriculturist.

I was a careful reader of your directions for putting up fruits last Summer, and experimented not a little myself with the following results: I have discarded tin cans entirely of late years, as dangerous, and use only glass and earthenware. The most of my fruits were put up in Potter & Bodine's glass bottles having a rubber ring fastened to the tin cover, and an iron clamp, which, by turning, secures the cover on tightly. These all kept well, and for simplicity, ease of putting up, and cheapness, when compared with other patents, I give them the preference. Several new forms were used, but with indifferent success, though I will not entirely condemn them yet. I tried the regular black wine, or junk bottles, and followed your directions on page 215 July *Agriculturist*, putting strawberries, grapes, etc., (the last a nice thing for raisins in mince pies during the Winter,) in the bottles, filling them with cold water, driving the soft corks in tight and tying them firmly. They were then put in cold water, set on the stove, and boiled for perhaps half an hour. I noticed the steam forced its way through the corks, so I dipped them in melted wax and laid them away. They kept well, and we think the strawberry flavor more perfect than in the others. Of course they were sugared when eaten.

I kept cherries and other fruit very well in stone jars, pouring them in while boiling hot, with a little sugar, then covering with cloth before laying

on the lid, and pouring melted cement around its edges. They opened well. The jars may hold one half to one gallon each. This is the cheapest method I have tried. I also kept tomatoes in glass bottles with nothing but cemented cloth tied securely over the mouths. The cloth was strong muslin, coated on both sides with cement, and when it shrunk in cooling, more cement was poured on. They came out fresh and good. I used in addition, the patty pan arrangement you originated, and with uniform success. The cement used is the same as formerly described in the *Agriculturist*, viz.: about 14 to 16 ounces of common resin and 1 ounce of tallow, melted and stirred together.

Brooklyn, March 10th, 1863.

HOUSEKEEPER.

### Hints on Cooking, etc.

**Railroad Cake.**—Contributed by Mrs. C. A. Williams, Litchfield Co., Conn. Mix 1 cup of white sugar, 1 of sifted flour, 3 beaten eggs, 2 tablespoonfuls milk, a piece of butter the size of a hen's egg, 1 teaspoonful cream tartar,  $\frac{1}{2}$  teaspoonful soda, and  $\frac{1}{2}$  teaspoonful extract of lemon.

**Soda Biscuit.**—Contributed to the *American Agriculturist* by a subscriber at Emerald Grove, Wis. Take 1 pt. sweet cream, 1 teaspoonful soda, 3 of cream tartar, a little salt, and flour sufficient to mix the ingredients quite soft. Bake in a quick oven.

**Apple Pudding:** by the same. Fill a pudding dish with acid apples pared and quartered. Cover them with a thick crust, made as directed for soda biscuit, and bake half an hour; serve with sugar and cream.

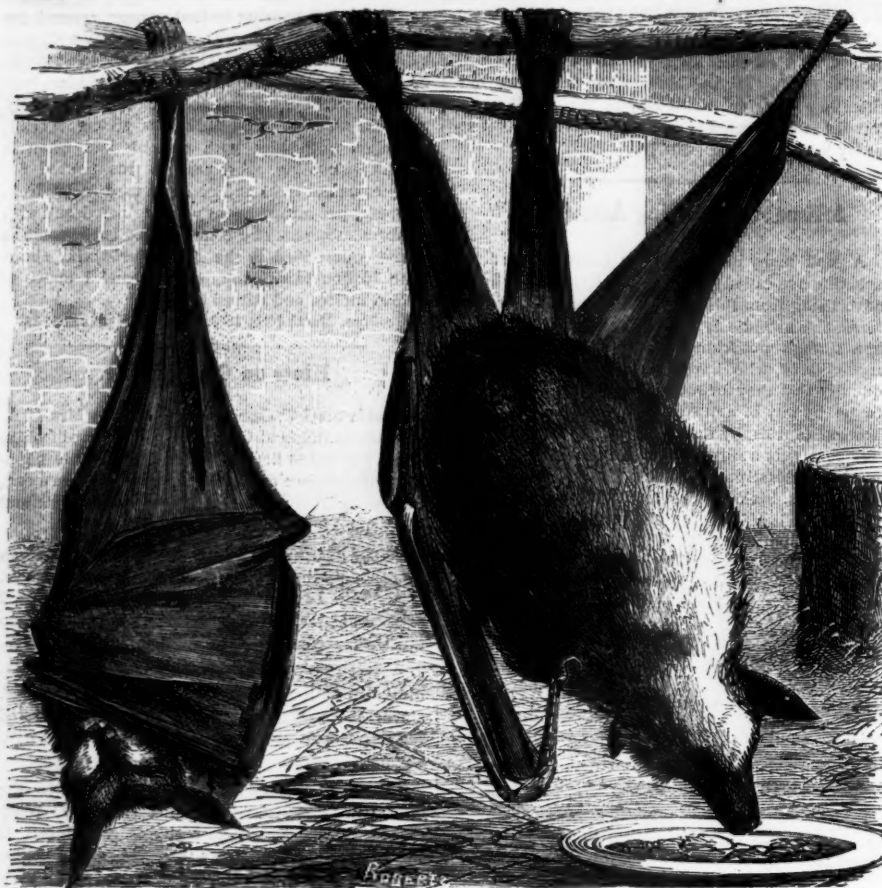
**Corn Bread Coffee.**—Contributed to the *American Agriculturist* by Anna Woodruff, Westchester Co., N. Y. Make a simple corn bread, of meal, salt and water. Mix the meal, either yellow or white, with just water enough to wet it; the water may be either warm or cold, then bake it to a dark brown, or as dark as real coffee when burned. A piece of the bread as large as one's hand, will make coffee several times. Pour water on the bread unbroken, and boil an hour or so. Add more water for another time. [A rather weak liquid.—Ed.]

**Economical Wheat Bread.**—A subscriber to the *Agriculturist* at Seltzer's Store, Pa., sends the following directions for making good bread: Take 2 qts. of small potatoes, wash thoroughly, boil soft, and mash. Then pour 5 pints of warm water on the potatoes, stir them up and strain through a colander; this will separate the potato from the skin. Add flour until it becomes very stiff; stir in 1 pt. of yeast, and 1 tablespoonful of salt. Let it rise until light, or three or four hours, then add flour, and knead well. Set it to rise again; when light, knead in loaves, and when sufficiently light, place in the oven and bake 1 hour. This will make 3 good sized loaves.

**Potato Yeast.**—Contributed by Anna Woodruff, Westchester Co., N. Y. Boil twelve peeled potatoes, and mash them well. Add a quart of the water they were boiled in, while hot, and a cup of sugar. When cool, add a quart of cold water, and a half pint of fresh yeast. Let it stand in a warm place twelve hours, after that shut it up tightly, and keep it in a cool place. It will rise quickly and make delightful bread. [We would say do not add the water the potatoes were boiled in.—Ed.]

**Boiled Wheat.**—Mrs. D. Tuttle, Mendocino Co., Cal., writes that boiled wheat as described in the *Agriculturist*, page 23, (Jan. No.) forms a frequent dish in that vicinity, which is more than twenty miles from the nearest grist-mill. She says it is improved by first boiling it in weak lye to separate the hulls. After this, wash it with cold water several times, then cook for the table. It is considered nearly or quite equal to rice.

**To Boil Eggs.**—M. B., Blainville, Pa., writes that the best way to boil eggs is to place them in cold water and set them over the fire. In this manner the center of the egg will cook as soon as the outer part. If they are preferred soft, the water should not come to a boiling point.



FLYING FOXES OF CEYLON.

### The Editor with His Young Readers.

Our young friends are doubtless familiar with the appearance of the common bat. It may be seen on almost any summer evening flitting about in pursuit of insects, sometimes entering dwellings. They are friends to man, and none but uninformed persons would think of killing them. They destroy multitudes of millers and other insects, which would otherwise spoil fruits and vegetables. The curious creatures represented in the engraving are of the bat family. They are so large that they have been named flying foxes. Specimens of them were brought to London a few years since, from which our sketch was made. A writer says of them:

"There are more singular inhabitants of Ceylon trees than monkeys. The flying foxes hang from them like fruit. The flight of these creatures is directed by means of a membrane attached to the inner side of each of the hind legs, and kept distended at the lower extremity by a projecting bone, just as a fore-and-aft sail is distended by a 'gaff.' Over the entire surface of the thin membrane of which they are formed, sentient nerves of the utmost delicacy are distributed, by means of which the animal is enabled during the darkness to direct its motions with security, avoiding objects against contact with which, at such times, its eyes and other senses would be insufficient to protect it. By day they suspend themselves from the highest branches of the silk-cotton trees, hanging by the claws of the hind legs, with the head turned upward, and pressing the chin against the breast. At sunset, taking wing, they hover with a murmuring sound, occasioned by the beating of their broad, membranous wings, around the fruit trees, on which they feed until morning, when they resume their pensile attitude as before. They hang in such prodigious numbers that the branches often give way beneath their accumulated weight. They fly in clouds as thick as bees or midges. When at rest or asleep, the disposition of the limbs of the flying fox is most curious. At such times it suspends itself by one foot only, bringing the other

close to its side, and thus it is enabled to wrap itself in the ample folds of its wings, which envelope it like a mantle, leaving only its upturned head uncovered. Its fur is thus protected from damp and rain, and, to some extent, its body is sheltered from the sun. As it collects its food by means of its mouth, either when on the wing or when suspended within reach of it, the flying-fox is always more or less liable to have the spoil wrested from it by its intrusive companions, before it can make good its way to some secure retreat in which to devour it unmolested. In such conflicts they bite viciously, tear each other with their hooks, and scream incessantly, until, taking to flight, the persecuted one reaches some place of safety, where he hangs by one foot, and grasping the fruit he has secured in the claws and opposable thumb of the other, he hastily reduces it to lumps, with which he stuffs his cheek-pouches until they become distended like those of a monkey; then, suspending in safety, he commences to chew and suck the juices, rejecting the refuse with his tongue."

### About Blue Birds.

A correspondent, "A. H. G.," Rondout, N. Y., writes for the boys and girls of the *American Agriculturist* the following interesting facts: "I am not aware whether it is generally known, that our useful and beautiful blue bird is more or less lacking in that instinct that belongs to other members of the feathered tribe. They are domestic little creatures, and disposed to build as near as possible to the habitations of man. Like the wren—with whom they are never on good terms—the bird house, or wood shed, or hollow apple tree, in the door yard, are their favorite haunts. But when these are not available their ignorance in selecting a place, is somewhat remarkable. They appear to have but little idea of the space that they require for their nesting operations, and many hundreds must yearly fall victims to this singular ignorance. The first instance of this that came under my notice was several years ago. A neighbor was standing upon his piazza, in early Spring, when he heard something fluttering, apparently inside the pillar against which he was leaning. It was one of those hollow posts—put up more for ornament than use—about five inches square upon the inside. On examining the post he found a large knot hole just under the eave of the piazza. This

immediately led him to saw off one side of the pillar about eight inches above the floor, and having pried off the piece, imagine his surprise to see a blue bird fly out, and to find within two only recently dead, with the skeletons of more than a dozen others—the accumulation of several years. Another instance of a similar character, occurred in the stove pipe of a small country church. The pipe was raised about eight or ten feet above the roof and covered with a 'smokejack.' In the Fall of the year when the Sexton came to examine the flue, preparatory to putting up the stove, he counted seven blue birds, that were found just where it joined the pipe. So emaciated had they become before dying, that scarcely a feather except those of the wings was ruffled. They had dried with almost as much perfection as though prepared by the taxidermist. One other instance, only not attended with so great fatality, occurred in a wood-shed.—A piece of pipe several feet in length was standing on the stove, in a corner of the building, near an open window. When the stove came into requisition, here again, we found a blue bird in the flue—in a state of almost perfect preservation. The ends of the wings in every instance were the only parts that had suffered. They were worn quite up into the shaft of the feathers—a proof of the efforts that the little creatures had made to rise, and fall from want of sufficient room to spread their wings. Care should be taken to prevent such occurrences, by providing houses of larger dimensions than 'wren's nests,' where the blue bird can find a place of comfort and security to build. They are worth preserving in a garden. The insects that they destroy as well as the beauty of their color and the domestic character of their lives and song, should place them among the farmer's especial favorites."

### Confiding Birds—Pleasing Incident.

J. E. Hardisty, Jerusalem Mills, Harford County, Maryland, writes to the *American Agriculturist* as follows: "Last Summer, about the 1st of August, a pair of the wren family, called here the 'woods wren,' were observed near our kitchen door, upon an apple-tree, making an unusual noise, seemingly in great distress. The cause was soon discovered: one of their young ones had just fallen a prey to the cat. Two or three days after, apparently the same birds were frequently seen flying in and out of the second-story windows, and, to our surprise, we found that they had gathered a wad of dried grass as large as a child's head, upon the top of the wardrobe, where was a space about six inches high. The nest was neatly formed, and lined with feathers, but not so carefully as is done by common house wrens. At first the birds were a little shy of us, but soon learned to disregard our presence. Our little folks, four in number, were successively lifted up to see, first, the nest; secondly, the bird on the nest; thirdly, the young birds, two in number. Nothing could exceed the joy of the children as they gazed again and again upon the confiding little creatures, nor was our own pleasure much less. About the 1st of September, my wife on going up stairs found the young birds hopping about the room; one of them flew up and clung to her breast, and remained there for some time, looking about and up into her face with the greatest confidence, while she moved about from room to room attending to her duties. By night they had disappeared, and have not since been seen, though we now and then hear their pleasant notes: 'Te-heaugh-heaugh, Te-heaugh-Teaugh, Te-heult,'—which in the Winter, for they remain with us all Winter, is changed to 'Tittle-lu, Tittle-lu, Tittle-lu.' They warble other notes which our language cannot express. They are a little larger than the common house wren, with long tail, comparatively large broad head, with a whitish streak curved over the eyes; back, light brown; breast, bluish white. Their movements are very similar to those of the house wren."

### A Mysterious Black Cat.

A lady of the writer's acquaintance was one evening sitting alone in a room from which a door opened into a long dark hall. As she chanced to look in that direction, she was somewhat startled to see what appeared to be a large black cat sitting upon the hall stairs. There were two brightly gleaming eyes glaring upon her in a manner that made her feel rather uncomfortable, especially as she owned no cat, and it must be a strange animal. "Scat," she exclaimed, stamping on the floor. It did not move. "Scat," once more, with a louder stamp. But still it remained. She drew off her shoe, and with another "scat" threw it directly at the object, but there it sat as before. Though somewhat startled, the lady was no coward, and taking the lamp she went directly to the mysterious animal and found she had been trying to drive away the ends of two bright brass stair rods, from which the light had been reflected, presenting the appearance of two glittering eyes: the shadow of the stair to an excited imagination might easily represent the body of a black cat.—How many ghost-scares originate similarly.



### The Boys and Girls' Garden—No. 1.

An unusual number of business items has crowded out a share of the space intended for the young people, but perhaps there is room for all that is necessary so early in the season. As hinted last month, we intend to give some plain and familiar Talks about plants and the way in which they grow, which will be both interesting and useful to our young readers, and perhaps to older ones also. While we shall use engravings to explain what we write, it will be much better to have the *living plant* directly before us to talk from, and before our readers also, and we advise all those who wish to follow these lessons to put in seeds of the plants we have selected to illustrate them. The seeds are: Flax; Sweet Pea; Muskmelon; Tomato; Morning Glory; Four O Clock; and Oats. If more convenient, the common Pea and Cucumber or Squash may be planted in place of Sweet Pea and Muskmelon. All these seeds can be procured by every one. They should be planted in a bed in the garden, where they can be watched all summer. It is best not to put the seed into the ground until it becomes dry and warm weather. So look out for the seeds now, and be ready to meet us for a Garden Talk next month.

### New Puzzles to be Answered.



No. 35. Illustrated Rebus. A most excellent rule.

No. 36. Problem.—Suppose a clock to have six hands, which go around respectively in 1, 6, 12, 18, 24, and 30 hours, and that they are together at 12 o'clock, April 1st; when will they next be together.

**Answers to Puzzles and Problems in March** No. (page 89). No. 31. Illustrated Rebus.—Fear too doe vil if you would be bray v. That is: "Fear to do evil if you would be brave."—No. 32. Illustrated Rebus.—Well bee gun eye S half done; or "Well begun is half done."—No. 33. Mathematical Problem. Answer 42 feet.—No. 34. Word Question. Answer: Facetiously, or abstemiously. N. B.—By an oversight, no answer was given to the Illustrated Rebus on page 37. (Feb. No.) It reads Be shoe-er ewe r rite before ewe-fight; that is: "Be sure you're right before you fight."

**Crowded Out.**—A good many pleasing items, problems, and a host of names of those sending in answers.—We expect to find room for them next month.

### To Sunday School Teachers and Others.

The Book of "Lessons for every Sunday in the Year," has met with a success far beyond our anticipation. The edition of five thousand copies published at the office of the *Agriculturist*, which it was supposed would last a year at least, was soon exhausted, and another large edition printed. This is exclusive of the great numbers printed and sold by others. The many letters from Superintendents, Teachers, and others, commending it in the highest terms, are satisfactory evidence of its value. These questions and the accompanying lessons were originally prepared for our own school, without any thought of making a book, until repeated calls from others for copies, seemed to make it necessary. We shall continue to supply the work at 10 cents per copy, and as this barely covers the cost, the price is the same by the hundred or thousand. If to go by mail, the postage to be prepaid, is 4 cents for a single one; 3½ cents per copy on two to nine; and 3 cents each, where ten or more are sent in a single package. Over 1,500 miles, the postage is double these rates. The following is one of the many notices of the book which have appeared.

From the *Sunday School Times* (Philadelphia), March 14.

"A New Question Book.—We have just been examining a little book published by Orange Judd, (of New-York City,) called "Lessons for Every Sunday in the Year," and have risen from the examination with a feeling of thankfulness that such a book has been made. We have never seen a Question Book containing so many conveniences and advantages as this, so many excellencies, both positive and negative. Mr. Judd is a life-long Sabbath-school man, and this book has been the fruit of the experience of himself and some of his friends in trying to meet the practical wants of the Sabbath-school. Like all good text books, it has grown out of actual necessities and experience; it is a growth rather than a work. We advise every Superintendent to send at once for a copy."

### The Markets.

AMERICAN AGRICULTURIST OFFICE.  
New-York, Thursday Morning, March 19, 1863.

#### 1. TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS. Flour. Wheat. Corn. Rye. Barley. Oats.  
24 days this m'th 235,000 41,000 173,000 57,000 78,000 294,000  
28 days last m'th 211,000 26,000 163,000 39,000 102,000 225,000

SALES. Flour. Wheat. Corn. Rye. Barley.  
24 days this month 350,000 1,810,000 2,031,000 139,000 121,000  
28 days last month 432,000 2,410,000 2,571,000 163,000 126,000

#### 2. Comparison with same time last year.

RECEIPTS. Flour. Wheat. Corn. Rye. Barley. Oats.  
24 days 1863. 235,000 41,000 173,000 57,000 78,000 294,000  
24 days 1862. 304,000 163,000 289,000 119,000 164,000 171,000

SALES. Flour. Wheat. Corn. Rye. Barley.  
24 days 1863. 350,000 1,810,000 2,031,000 139,000 121,000  
24 days 1862. 311,000 279,000 1,061,000 143,000 203,000

#### 3. Exports from New-York, Jan. 1, to March 12.

Flour. Wheat. Corn. Rye. Oats.  
Bbls. Bush. Bush. Bush. Bush.  
1863. 614,740 3,156,850 1,396,054 50,106 96,322  
1862. 619,675 2,091,781 2,712,801 505,005 6,408

The above tables show at a glance the volume of business in Breadstuffs, and the figures below show the present prices and their changes. Prices of Breadstuffs, Provisions, etc., have gone up and down with the premium on gold, and their consequent variable value for export. Wool is in great demand and still advancing in price.

#### CURRENT WHOLESALE PRICES.

	Feb. 19.	March.
Flour—Super to Extra State	\$7 00 @ 7 95	\$6 70 @ 7 00
Superfine Western	7 00 @ 7 25	6 70 @ 7 00
Extra Western	7 55 @ 10 50	7 00 @ 10 25
Extra Genesee	8 00 @ 9 50	7 65 @ 9 20
Super to Extra Southern	7 90 @ 10 50	7 40 @ 10 25
Rye Flour—Fine and Super.	3 50 @ 5 50	3 50 @ 5 50
CORN MEAL	4 15 @ 5 00	4 15 @ 5 00
WHEAT—All kinds of White.	1 80 @ 2 00	1 80 @ 1 90
All kinds of Red.	1 40 @ 1 78	1 57 @ 1 78
CORN—Yellow.	97 @ 1 00	90 @ 98
White.	98 @ 1 05	95 @ 1 00
Mixed.	95 @ 97	90 @ 92
OATS—Western.	75 @ 77	82 @ 84
State.	66 @ 68	77 @ 85
RYE.	1 05 @ 1 12	1 08 @ 1 12
BARLEY.	1 45 @ 1 60	1 40 @ 1 55
BEANS—Medium and Pea, bu.		3 25
Marrow and Kidney		3 25
HAY, in bales, per 100 lbs.	85 @ 1 10	80 @ 85
COTTON—Middle, per lb.	91 @ 91	71½ @ 82
RICE, per 100 lbs.	Nominal.	Nominal.
HOPS, crop of 1862, per lb.	20 @ 28	21 @ 28
FEATHERS, Live Geese, p. lb.	48 @ 50	47½ @ 50
SEED—Clover, per lb.	11 @ 11½	9 @ 10
Timothy, per bushel.	2 33 @ 3 00	2 75 @ 3 00
FLAX, per bushel.	3 10 @ 3 25	3 50 @ 4 00
SUGAR—Brown, per lb.	9 @ 13	9½ @ 12½
MOLASSES, New-Orleans, p. gal.	45 @ 55	42½ @ 57
COFFEE, Rio, per lb.	39½ @ 40	30½ @ 34
TORONTO—Kentucky, &c. p. lb.	15 @ 32	14 @ 32
Seed Leaf, per lb.	9 @ 32	9 @ 32
WOOL—Domestic fleece, p. lb.	72½ @ 80	85 @ 1 05
Domestic, pulled, per lb.	65 @ 80	80 @ 92½
Wool, California, unwashed.	55 @ 55	35 @ 65
LARD, in bbls, per lb.	12½ @ 12½	12½ @ 13
OIL CAKE, per tun.	47 00 @ 55 00	48 00 @ 53 00
PORK—Mess, per bbl.	14 75 @ 17 00	14 12½ @ 16 75
Prime, per bbl.	11 50 @ 14 00	11 50 @ 13 75
BEEF—Plain mess	11 25 @ 12 75	11 00 @ 12 75
LARD, in bbls, per lb.	10½ @ 11½	10½ @ 11½
BUTTER—Western, per lb.	17 @ 22	17 @ 22½
State, per lb.	23 @ 25	23 @ 25
CHEESE.	10 @ 15	13 @ 15
Broom Corn—per d.	8 @ 10	8 @ 10
Eggs—Fresh, per dozen.	19 @ 22	20 @ 22
POULTRY—Fowls, per lb.	10 @ 11	10 @ 15
Ducks, per d.	14 @ 15	15 @ 19
Geese, per d.	8 @ 10	8 @ 13
Turkeys, per lb.	12 @ 14	14 @ 19
POTATOES—Common, p. bbl.	1 28 @ 1 50	1 10 @ 1 50
Buckeyes, per bbl.	1 50 @ 1 62	1 25 @ 1 50
Peach Blow, per bbl.	1 50 @ 1 75	1 62 @ 1 75
Mercers, per bbl.	2 00 @ 2 50	2 00 @ 2 50
Nova Scotia, per bushel.		60 @ 65
Sweet, per bbl.	3 50 @ 3 75	4 00 @ 4 25
ONIONS, Red & Yellow p. bbl.	3 00	4 75 @ 5 00
APPLES, Greenings & Russets	1 25 @ 1 50	2 25 @ 2 75
Apples, choice, per bbl.	2 00 @ 5 00	2 50 @ 5 00
DRIED APPLES, per lb.	3½ @ 6	5 @ 6½
DRIED PLUMS, per lb.	11 00 @ 19 00	11 @ 12
DRIED PEACHES, per lb.	14 00 @ 18 00	15 @ 16

**The Live Stock Markets** are unusually active in this city, and prices have advanced one cent per lb. on beef within a month. The receipts of beef cattle have averaged 4,383 per week, but the taking out of 300 to 500 each week by buyers for the government, has left a light supply for butchers. Good animals now sell for prices equivalent to 10c. @ 11c. per lb. for the dressed carcass, and common to good stock at 8c. @ 9c. Sheep are higher than ever before, owing to the great advance on wool. They are now selling at prices equivalent to 9c. @ 10c. per lb. live weight. The whole of large lots have been sold out at an average of \$8.50 to \$9. per head. Live Hogs are in good demand and are selling at 6c. to 6½c. per lb. live weight for corn-fed and 5½c. @ 5¾c. for still fed hogs.

**FLOWER SEEDS BY MAIL.**—The subscriber raises about one hundred kinds of Flower Seeds, selected from over one thousand varieties, of the most showy and attractive. He will furnish, neatly put up, any 33 kinds on the list for \$1, and send by mail, with postage prepaid.

G. R. GARRETSON, Flushing, N. Y.

**ASPARAGUS ROOTS,** of the best quality, two and three years old, at 40 cts. per 100, or \$3.50 per 1000, including packing. Can be sent any distance.

G. R. GARRETSON, Flushing, N. Y.

### Business Notices.

Eighty Cents a Line of space.

(Copy.)

### New-York State Agricultural Society, Rochester Fair, 1862.

I hereby certify that JAMES PYLE, of New-York, was awarded a special prize at the State Fair at Rochester on his O. K. Soap, Dietetic Saleratus, Cream Tartar, Baking Soda, and various other articles of exceeding great merit—and the Executive Committee of the Society give special commendation for the great excellence of the articles exhibited.

In witness whereof I have hereunto subscribed my name, and affixed the official seal of the Society.

{ L. S. }

B. P. JOHNSON,

Secretary.

### Lands—To All Wanting Farms.

Large and thriving settlement of Vineland, mild climate, 30 miles south of Philadelphia, by railroad; rich soil; fine crops; twenty acre tracts, at from \$15 to \$20 per acre; payable within four years. Good business openings; good society. Hundreds are settling and making improvements. Apply to CHAS. K. LANDIS, Postmaster, Vineland, Cumberland County, N. J. Letters answered. Papers containing full information, sent free.

### Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month. TERMS—(invariably cash before insertion):

FOR THE ENGLISH EDITION ONLY.  
Fifty cents per line of space for each insertion.  
One whole column (45 lines), or more, \$40 per column.

FOR THE GERMAN EDITION ONLY.  
Ten cents per line of space for each insertion.  
One whole column (150 lines), or more, \$10 per column.

### HOW TO PRUNE YOUR GRAPE VINE.

### OPEN AIR GRAPE CULTURE:

A PRACTICAL TREATISE ON THE GARDEN AND VINEYARD CULTURE OF THE VINE,

AND THE MANUFACTURE OF DOMESTIC WINE.

Designed for the use of Amateurs and others in the NORTHERN AND MIDDLE STATES. Profusely illustrated with new engravings. By JOHN FAIR, CELEBRATED.

### Thomery System of Grape Culture.

PRICE \$1.25.

Sent free of postage on receipt of price. Every person who has a Grape Vine, should own this Book. Address C. M. SAXTON, Agricultural Book Publisher, New-York.

### Wheeler & Wilson's

HIGHEST PREMIUM



SEWING MACHINE.

WITH VALUABLE IMPROVEMENTS. Office No. 565 Broadway, New-York.

### Great International Agricultural Exhibition,

TO BE HELD AT

Hamburg, Germany, in July, 1863.

The attention of Agriculturists, Growers of Stock, and Manufacturers of Agricultural Implements, machinery, and others interested in Agricultural Products, is called to this Exhibition, which will probably exceed in interest and magnitude any Fair of the kind ever held. Every facility will be afforded for the cheap transportation of all contributions to the Exhibition, as well as to the delegates from the several State Societies, and others connected with the Exhibition.

All applications for entries must be made to the only authorized Agents undersigned, before the fifteenth day of April next, who will furnish programmes and any information required. Sole Agents, 72 Broadway, New-York.

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UNIVERSAL CLOTHES WRINGER,

No. 1, \$10. No. 2, \$8. No. 3, \$14. No. 18, \$12.

The only Wringer with the PATENT COG WHEEL REGULATOR. Where there are no Carvers, the Express charges will be prepaid.

NONPAREL WASHING MACHINE,

Prices, No. 1, \$12; No. 2, \$16; No. 3, \$20.

WOODRUFF'S PORTABLE BAROMETER,

Prices \$3, and \$12. Agents wanted.

THE AQUARIUS, A Hand Force Pump, \$10.

HARVEY B. LANE,

No. 151 Nassau-st., New-York City.

**BUTTER,  
CHEESE,  
POULTRY, EGGS,  
AND FARM PRODUCE  
OF ALL KINDS****SOLD ON COMMISSION.**

Constantly on hand, for sale, Flour, Fish, Salt, Mackerel, Pork, Hams, Lard, Beans, Dried Fruit, Soap, Starch, etc.

COOK &amp; NICHOLS, Successors to

ISAAC EMENS, 226 Front-st., New-York.

Refers to J. D. Lamater, Cashier Marine Bank, N. Y. City.  
Lewis & Brown, No. 42 Front-st., N. Y. City.

EVERY FARMER SHOULD TAKE IT!

**\$1 AMERICAN STOCK JOURNAL. \$1**

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All persons who will send ONE DOLLAR and a 5-cent stamp, shall have a copy of the Journal and one copy of either book named below, price 25 cents each, viz.:

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ON****Tobacco Culture,**

Being a complete Manual or Practical Guide for the selection of the Soil and its Preparation; Kind and Quality of Manures to be used, and how applied; Growth of Plants; Transplanting and Mode of Culture generally, from time of planting the seed bed, through harvesting, curing, and preparation for market. With Illustrations, showing the Plant in its different stages of Growth.

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WITH ANATOMICAL AND QUESTIONAL ILLUSTRATIONS: Containing, also, a Series of Examinations on Equine Anatomy and Philosophy, with Instructions in reference to Dissection and the mode of making Anatomical Preparations; to which is added a Glossary of Veterinary Technicalities, Toxicological Chart and Dictionary of Veterinary Science. Plain Plates, \$2.50. Colored Plates, \$5. Sent free of postage on receipt of price.

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**Marblehead Mammoth Cabbage.**

The largest cabbage in the world! sometimes weighing 60 lbs., and averaging 30 lbs. each, by the acre. It is exceedingly tender, sweet and rich. Scores of farmers in the United States and Canada have raised them, weighing from 25 to 35 lbs. 25 cents per package; 5 for \$1.00. Also, Stone Mason Cabbage, a large, sweet and tender cabbage, remarkably reliable for heading. 25 cents per oz.; 4 oz. 75 cents; 1 lb. \$2.00.

EARLY PARIS CAULIFLOWER—25 cents per package.

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Sorghum Seed (pure), 25 cents per package.

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Every variety of garden and flower seed at city prices.**TO FARMERS,  
TO DAIRYMEN,****TO COUNTRY MERCHANTS.****ALL who have for Sale:**

**Sorghum Sugar and Syrup,  
Furs and Skins,  
Fruits, dry and green,  
Hops, Tallow,  
Cotton, Wool,  
Butter, Cheese,  
Lard, Hams,  
Eggs, Poultry,  
Game, Vegetables,  
Flour, Grain,  
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Can have them well sold at the highest prices in New-York, with full cash returns always within Ten Days of their reaching the City, by forwarding them to the Commission House for Country Produce, of

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OFVEGETABLE, AGRICULTURAL AND TREE SEEDS  
for 1863,With directions for their cultivation and management.  
ALSOThorburn's Descriptive Annual Catalogue  
OF

FLOWER SEEDS,

Containing all the new Floral Gems of the season,  
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BUCHANAN'S NEW HYBRID BLOTCHED PETUNIA  
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TREES IN POTS, a fine selection.Cranberry Plants.—1,000,000 of the celebrated  
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Nursery Stock.—Pear Trees, standard and dwarf; Apples and Cherries, do., in fine order, many in bearing condition. A fine selection of NURSERY STOCK in general.

For sale by

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**SEEDS. SEEDS.**The following seeds will crop a garden of half an acre.  
Cost \$9.00. Half of them \$5.00. Quarter \$4.00.

8 qts. Beans of sorts.	1 oz. Melon of sorts.
1 qt. Lima Beans.	2 oz. Onions of sorts.
8 qts. Peas of sorts.	1 oz. Parsnip.
1 1/2 qts. Sweet Corn.	3 oz. Radish of sorts.
4 oz. Beets of sorts.	1 oz. Salsify.
1/2 oz. Cauliflower.	1/2 oz. Parsley.
2 oz. Cabbage of sorts.	1/2 oz. Peppers of sorts.
1/2 oz. Celery.	1 oz. Squash.
2 oz. Cucumbers.	8 oz. Spinnage.
3 qts. Carrots of sorts.	3 pkts. Tomato of sorts.
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20 Distinct Varieties of the choicest Asters, in box 2.00 each.  
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**Corn**—Extra Early Sweet, Large Sweet, Evergreen, Large Yellow, White Flint, and Improved King Philip.

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**Turnip**—Early and Late, Red Top Strap Leaf Flat, White Flat, White Globe, Yellow Stone, Aberdeen, Skirving's Purple Top Ruta Baga, Ashcroft's Swedish, Walte's Eclipse, Improved American Purple Top Ruta Baga.

**Carrot**—Long Orange, White Belgian, and Altringham for stock.

**Beet**—Long Red Mangel Wurtzel, Globe Mangel Wurtzel, and White Sugar.

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**Fruit Seeds**—Apple, Pear, Quince, Cherry, Currant, Gooseberry, Strawberry, &c.

**Ornamental Tree and SHRUB SEEDS** of every variety. **Honey** and Yellow Locust, Buckthorn, for Hedges.

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**Bulbs and ROOTS** furnished to order.

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" Drumhead Savoy.....	20c.	1.25c.

Carrot, Long Orange Improved, very deep color, extra fine.....	15c.	75c.
" White Belgian, large and productive.....	10c.	50c.
Onion, Danvers Yellow (true).....	15c.	75c.
" Portugal White.....	15c.	75c.
" Wethersfield Red.....	10c.	50c.
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Mexican Sweet Corn; new and pure (no variety of table corn will compare with this in sweetness; a great acquisition.) Fager Bean, (the earliest bean grown.); Chichuachua Tomato (has been exhibited weighing 2½ lbs.); Scarlet Egg Plant (a magnificent ornament); California Bean (new); Ornamental Gourds (a great variety in one package); Speckled Lima Bean (excellent); Hubbard Squash (true). Packages of any of the above sent to any part of the United States, post paid, with full directions for cultivation, at 15 cents each; the eight for \$1.00. Also, New White Tomato (early and superior flavor); Upright Tomato; Lester's Perfected Tomato; Boston Curled Lettuce (true); Boston Market Celery (new); New-York Improved Egg Plant; at 10 cents each; the six for 50 cents.

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Would invite the attention of all who love the cultivation of Flowers, to the TENTH EDITION of his CATALOGUE OF FLOWER AND VEGETABLE SEEDS, and GUIDE TO THE FLOWER AND KITCHEN GARDEN, which will be mailed to all applicants enclosing a three cent stamp.

It contains a list of nearly 2000 VARIETIES OF FLOWER AND VEGETABLE SEEDS, with explicit directions for culture, so that the most inexperienced person may cultivate a garden successfully.

Particular attention is invited to the list of NOVELTIES, embracing all the most desirable varieties, introduced by European Florists the past season—also to the list of Indigenous Flower Seeds, collected from the mountains and prairies of the far West. The following list of old established favorites, highly improved by careful cultivation, can not fail to give satisfaction.

TRUFFAUT'S PEONY FLOWERED ASTERS.....	25c.
BALSAMS, Gleny's & Smith's Prize.....	25c.
CHRYSANTHEMUMS, large flowered and Pompones.....	25c.
CALCEOLARIAS and CINERARIAS, from the finest collections in Europe, each.....	50c.
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PANSIES, New Fancy, variegated, mottled, and striped—very striking.....	50c.
PETUNIAS, new marbled, blotched, and variegated, often producing double flowers.....	25c.
SWEET WILLIAM, Hunt's select and new auricula flowered, can not be excelled.....	25c.
PORTULACCA, new double, a most interesting novelty (10 seeds).....	\$1.00
STOCKS, splendid mixed German.....	25c.
NEW DOUBLE ZINNIA.....	25c.

The entire collection will be mailed to any address, post-paid, for \$6.00.

For a more extensive list see Catalogue. For collections of Flower Seeds by mail, see advertisement in March No. of Agriculturalist.

B. K. BLISS, Springfield, Mass.

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### CHOICE FLOWER SEEDS.

#### GARDEN AND FIELD SEEDS.

### FRUIT TREES AND GRAPE VINES.

**Strawberries**—Triomphe de Gand and Bartlett, 35 cts. per dozen; \$1 per 100; and \$7.50 per 1000.—Fillmore, 50c. doz.; \$3 per 100.—La Constante, \$1 per doz.; \$4 per 100.

**Currants**—Cherry, Versailles, and White Grape, \$1.50 per dozen; \$10 per 100. Also 30 other varieties.

**Raspberries**—Doolittle's American Black Cap, \$5 per 100. Hornet and Pilate, each \$2 per dozen, and 10 other sorts.

And all other Small Fruits. Send for Catalogues.

**Extra Fine Dahlias**, \$2 per dozen.

HARVEY B. LANE, 151 Nassau-st., New-York.

### Collections of Kitchen Garden Seeds, BY MAIL, POST-PAID.

20 varieties our selection.....	\$1 00.
45.....	2 00.

The above collections embrace all the leading varieties of vegetables usually grown in our gardens. To those who desire larger quantities, we would recommend our \$10 or \$5 and \$3 collections, which may be safely forwarded by Express to all parts of the country. A list of the contents of each collection will be found in our New Descriptive Seed Catalogue, which will be mailed to all applicants enclosing a three cent stamp.

### ONION SEED.

2000 lbs. Wethersfield Large Red Onion Seed.  
500 lbs. Large Yellow Onion Seed.  
Warranted pure and growth of 1862. Prices on application to SHEPPARD & SEWARD, 214 Pearl-st., New-York.

### 400 BUSHELS SEED POTATOES AT \$2.50 PER BBL.—Comprising the following varieties:

Early June, Garnet Chilli, Central City, Cuzco, Callao, and Pinkeye Rustycoat. P. SUTTON, Ransom, Luz, Co., Pa.

### CHICORY SEED.

### THE GREAT SUBSTITUTE FOR COFFEE.

A supply of the genuine article just received by the subscriber, and will be mailed post-paid to any address, upon receipt of the price annexed. Packets containing 1 ounce, 15 cts., 8 ounces 60 cts., 1 pound \$1.00.

Directions for culture accompany each package.  
B. K. BLISS, Springfield, Mass.

### CHICORY SEED.—GENUINE LARGE ROOT- CHICORY or Coffee Chicory Seed. Price one Dollar per pound. For sale by SHEPPARD & SEWARD, 214 Pearl-st., New-York.

### SEEDS. Garden, Field, and Flower SEEDS. Farm and Garden Implements.

**Fish Manure**, Guano, Bone Dust, Phosphate, etc.,  
**Plants**, Trees, Roots, etc.,  
of every variety—at wholesale or retail—at low prices.

JOHN VANDERBILT,  
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### STRAWBERRY PLANTS. Wilson's Albany, \$3 per 1000. Great Austin or Shaker Seedling, \$3 per 1000. Hudson River Antwerp Raspberry, \$4 per 1000.

O. J. TILLSON, New Paltz Landing, N. Y.

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## Sweet Potato Plants.

A superior article for Northern planting during May and June. Packed to go safely long distances. Price, 1000 \$2.25; 5000 \$10; 10,000 \$18. Our plants have given highly satisfactory results many years, growing good crops throughout the North. Send stamp for our circular on growing and keeping, with experience of growers, etc. Address  
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## Sweet Potato Plants.

Best kind, Nansemond, ready in season, May and June, \$3 per 1000, packed with care sent as directed. Send orders early. When boxed and sent by mail 80c. per 100.

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### NANSEMOND SWEET POTATO PLANTS.

You can grow your own Sweet Potatoes at the North. Price of plants 400 \$1; 1000 \$2.25; 5000 \$10; 10,000 \$18. Send for my circular, giving directions for cultivation and experience of growers. Address  
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**Cherry**—Very large, measuring sometimes two inches in circumference.

**Victoria**—Long bunches of large fruit.

**White Grape**—A most valuable variety.

**Short Bunch Red**—A very large and superior current, is improperly called "Short Bunch," as the bunches are long.

The above four kinds at the following rates:

1 year old, No. 1, 10 cts. each, \$1 per doz., \$6 per 100, \$60 per 1000.

1 year old, No. 2, 5 cts. each, 50 cts. per doz., \$3 per 100, \$35 per 1000.

2 year old, very large; all the wood left on—  
No. 1, 20 cts. each, \$2.00 per doz., \$12.50 per 100, \$100 per 1000.

No. 2, 15 cts. each, \$1.50 per doz., \$10.00 per 100, \$75 per 1000.

A few 3 year old, \$1 for three.

### La Versailles.

1 year old, 20 cts. each, \$2.00 per dozen, \$15 per 100.

2 year old 25 cts. each, \$2.50 per dozen, \$20 per 100.

### Rhubarb

Myatt's Linneus, \$1.00 per dozen, \$2.50 per hundred, \$15.00 per thousand.  
J. KNOX,  
Box 155, Pittsburgh, Pa.

### Genuine Tree Cotton Seed.

A limited quantity of the above seed can now be obtained, if applied for soon, of

### EDWARD TATNALL, Jr.,

Brandywine Nurseries, Wilmington, Delaware.

This seed was procured at considerable expense by William Ferri, of the above city, from the mountain regions of South America, having been conveyed thence by mule, "seven days journey," to Guayaquil, where this gentleman resided nearly three years, and made himself acquainted with the fact that this cotton thrives, and is cultivated on the elevated lands of the Andes, of which it is a native. His object was to introduce it into our Northern and Western States, believing if it would stand their climate (and where it now grows, it is frequently covered with snow and ice) it would prove a source of great interest and profit to the people of those States.

As seed represented to be that of the tree cotton has been palmed off on the public during the past year, this was warranted to be the genuine article, and will be forwarded by mail, free of postage, at the following rates remitted in current funds with the order:

25 for \$1.00; 60 for \$2.00; 110 for \$3.00; 200 for \$5.00; 500 for \$10.00.

Clubs of 5 or 10 supplied at the latter rates if sent under one envelope. Should be placed by 1st to 10th of May. In sending orders give the Post Office, County, and State.

### New Japan Honeysuckle.

*Lonicera brachypoda aurea reticulata.*

### Parsons & Co., Flushing, N. Y.,

offer this beautiful plant at one dollar each.  
The leaves are green, with a bright golden reticulation, giving with its foliage during the whole season an effect surpassing that of flowers which bloom only for a week or two.

### RASPBERRIES.

Brinckle's Orange and Franconia, 75 cents per dozen, \$3 per 100; \$20 per 1000.

Fastoff, River's Large Fruited Monthly, Knevit's Giant, Hudson River Antwerp, Red and Yellow Antwerp, Allen's Hardy, Improved Black Cap, &c., 50 cts. per doz. \$2 per 100; \$15 per 1000.

Hornet, Pilate, Imperial, Souchelet and Toilet, \$2 per dozen, \$10 per 100.

### Blackberries.

New-Rochelle, Dorchester and Newman's Thornless, 75 cts. per dozen; \$3 per 100; \$20 per 1000.

We will furnish 100 each of the above three kinds for \$7.50. For prices of Select Lists, see our Circular.

J. KNOX,  
Box 155, Pittsburgh, Pa.

## FRUIT TREES AND PLANTS, ORNAMENTAL TREES, SHRUBS, EVERGREENS, AND EXOTIC PLANTS. **PARSONS & CO.**

Invite the attention of buyers to their stock, which is in vigorous health, and of large size.

They offer all kinds at rates, which for size and excellence, are as low as they can anywhere be purchased.

They can sell trees, etc., by the hundred:

**Apples at \$14. Plums at \$30.**  
**Pears at \$28. Peaches at \$10.**  
**Cherries at \$25. Strawberries.**  
**Concord Grapes, 4 years, at \$25.**  
**Delaware and other hardy Grapes.**  
**Exotic Grape Vines, strong growth.**  
**Small Fruits of the newest sorts.**  
**Linnæus Rhubarb by the 1000.**

Their ORNAMENTAL TREES for Streets and Lawns are of large size and fine form.

FLOWERING SHRUBS in quantities for massing, at very low prices.

ROSES and EXOTIC PLANTS of the new and choice varieties.

**Catalogues furnished on application**

No orders will be sure of attention, unless addressed to us by mail, at **FLUSHING,** near **NEW-YORK.**

### The New-Jersey Nursery and Seed Farm.

The proprietor of this establishment offers for sale, at wholesale and retail, a general assortment of well-grown NURSERY STOCK, consisting in part of Standard and Dwarf Fruit Trees, Ornamental Trees and Shrubs, Grape Vines, Strawberries, Blackberries, Raspberries, and other Fruit Bushes.

VEGETABLE PLANTS of all kinds in their seasons.  
LAWTON BLACKBERRY, very low by the thousand.  
QUINCE STOCKS, extra fine, grown from stools.  
ORANGE ORANGE, for hedging, 2 years old, transplanted, very fine.

JAPAN LILIES, a very large and fine stock.  
GARDEN SEEDS, exclusively of my own growing, and warranted fresh and genuine.  
For wholesale and retail catalogues, gratis, address **FRANCIS BRILL, Newark, N. J.**

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Pears, Apples, Plums, Cherries, Peaches, Apricots, Figs, and all kinds of Fruit Trees, Grapes (350 kinds), Strawberries (200 kinds), Currants, Raspberries, Cranberries, Rhubarb, and all small fruits at lowest rates. All kinds of Ornamental Trees, Shrubs, Plants, Bulbs, &c. In short everything from the largest tree to the smallest plant supplied at lowest prices.  
**PRINCE & CO., Flushing, N. Y.**

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**SPLendid FRENCH and BELGIAN HYBRIDS, OVER ONE HUNDRED and THIRTY VARIETIES,** at prices varying from \$2.00 to \$30.00 per dozen.  
SENT BY MAIL POST-PAID, to all of the Loyal States. Descriptive Catalogues, with directions for culture, mailed to any address enclosing a stamp.  
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### 50,000 Linnæus Rhubarb

At \$18.00 per thousand,

For sale by **KING & MURRAY,** Flushing, L. I., near New-York.

### Strawberry Plants.

We have taken special pains to procure and preserve our varieties true to name. We cultivate our plants with the same care we do our fruit, and all sent out by us are not only of the best quality, but we guarantee them to be genuine. We offer the following at 35 cts. per doz. \$1 per 100; \$5 per 1000. Alpine Wood, white and red, Boston Pine, (same as Bartlett,) Brighton Pine, Baltimore Scarlet, Burr's New Pine, Cutter's Seedling, Downer, Hovey, Hooker, Jenny Lind, McAvoy's Superior, Moyamensing, Wilson's Albany, and many others.

The following at 50 cts. per doz.; \$1 per 100; \$7.50 per 1000. Duc de Brabant, Jessie Read, Nimrod, Trollope's Victoria, Triomphe de Gand, Vicomtesse Hericart de Thury, &c.

The following at 50 cts. per doz.; \$2 per 100; \$10 per 1000. Alpine Bush, white and red, British Queen, Bieiton Pine, Georgia Mammoth, &c.

The following at 50 cts. per doz.; \$3 per 100; \$5 per 200; \$20 per 1000.

Golden Seeded, Fillmore, Kitley's Goliath, Princess Royal, &c.

### Plants by Mail.

We will not send hereafter less than one dollar's worth of plants by mail, nor less than one dozen of any one kind, and in all cases at the price per dozen, except as designated below:

For \$1 we will send one dozen each of any three kinds offered at 35 cents per dozen. For \$2 we will send one dozen each of Triomphe de Gand, Fillmore, Trollope's Victoria, Wilson's Albany and Burr's New Pine. These five kinds embrace the different seasons of ripening, and are all favorites with us.

For prices of SELECT LISTS, see our Circular.

J. KNOX.  
Box 155, Pittsburgh, Pa.

### Russell's Strawberry.

This great Strawberry, combining all the good qualities of "Longworth's Prolific," and McAvoy's Superior, added to enormous size, possesses all the properties to make it the best strawberry yet known, after six years' trial, being the largest and most prolific bearer, with an exceeding rich aroma—full of vinous juice, and for deliciousness unsurpassed—very hardy in its growth, enduring severe frost. It is not only a pistillate but a staminate.

JOHN J. THOMAS, editor of the Country Gentleman, Albany, who personally examined the beds in bearing, says, July 3, 1862—"It appears to come up fully to all that is said in its favor. On comparing it with the Wilson, the Russell was found to be, so far as we could judge, even more productive than that famed prolific variety, about equally firm in flesh, nearly double in size, and greatly superior in flavor. If its good qualities are maintained after it has been fully tried in different localities, it will not be surpassed, and perhaps not equalled by any other sort."

Fine Plants now offered at \$3.00 per dozen. Cash to GEO. CLAPP, Auburn, N. Y., March 2, 1863.

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**RUSSELL'S GREAT PROLIFIC.** This is believed to be the largest and best Strawberry ever introduced. Berries over six inches in circumference, very productive and of the finest flavor. Price \$3 per dozen.

The following three varieties are the prize berries of Europe for 1862. They are of enormous size, weighing from one to two ounces each.

Empress Eugénie, Marguerite, Princess Frederick William, Price \$2 per dozen.

La Constante, Oscar, Victory, Wizard of the North, Wonder, Prince of Wales, Filbert Pine, Crimson Queen, Bonte de St. Julien, and Honneur de Belgique, at 75 cts. per dozen, or the ten varieties for \$5.

These are selected from over 100 varieties, and are believed to be of great excellence.

Great Austin, Triomphe de Gand, Bartlett, Downers Prolific, and Pyramidal Chili, at \$1 per 100, or \$6 per 1000.

All orders addressed to **WM. S. CARPENTER,** 329 Greenwich-st., New-York.

### GET THE BEST STRAWBERRIES.

The most productive are Wilson's and Downer's, Price 75 cts. per 100, \$5 per 1000.

The largest and handsomest is Triomphe de Gand, Price, \$1 per 100, \$5 per 1000.

The richest and best flavored is Bartlett and Ward's Favorite, price \$1 per 100, \$7 per 1000.

Other varieties, with a good stock of Currants, Raspberries, Grapes, and Blackberries, at equally low rates. Address **E. WILLIAMS, Montclair P. O., West Bloomfield, N. J.**

### 1,000,000 Strawberry Plants for

**SALE.** The Great Austin or Shaker Seedling, at \$5 per 1000. Triomphe de Gand and Wilson's Albany at \$3 per 1000. Hovey Seedling and Ladyfinger variety, at \$2 per 1000.

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I offer for sale 60,000 Isabella and Catawba one year old roots, of good quality, from Island Cuttings. Address **H. C. HUNTINGTON, Sandusky, O.**

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**KING & MURRAY, Flushing, Long Island, N. Y.**

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**GRAPES AND SMALL FRUITS** of all kinds.

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**Pears of fine quality,** at \$28 per hundred.

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**Cherries, do. do.** \$16 per hundred.

**Pears, Apples, and Cherries of LARGE SIZE,** at proportionate prices.

**Plums of fine quality,** at \$30 per hundred.

**Peaches, \$8 to \$10 per 100, and \$60 per 1000.**

**Arbor Vitæ for Hedges,** at \$12 to \$15 per hundred.

**Osage Orange and other Hedge Plants at low prices** per thousand.

**Ornamental Trees of extra large size for Streets and Avenues.**

**Ornamental Trees, Evergreens and Shrubs** in quantities, for Lawns, Parks, and Cemeteries, at very low prices.

**KING & MURRAY,**

Flushing, L. I., near New-York.

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Price \$3 each.

**Parsons & Co., Flushing, N. Y.,**

Offer this fine new grape, the produce of Union Village, crossed with a foreign variety. It ripens about Sept. 10th. The report of the Massachusetts Hort. Society thus describes it:

"It was a large, round, black Grape, heavy bloom, large bunches, thin skin, little or no pulp, juicy, sweet, and very vinous.—Those of the Committee who tasted of it, formed the highest opinion of its value, and it seemed to them the best and by far the most promising new hardy grape that had been brought to their notice."

### FOREIGN GRAPES FOR VINERIES.

We offer this Spring a large stock of Foreign Grapes, well grown and well ripened plants in pots, embracing the old standard sorts, and the following superior new varieties:

<b>Austrian Muscat,</b>	<b>Lady Downes,</b>
<b>Bidwell's Seedling,</b>	<b>Muscat Ottonel,</b>
<b>Bowwood Muscat,</b>	<b>Muscat St. Laurent,</b>
<b>Buckland's Sweetwater,</b>	<b>Muscat Hamburg,</b>
<b>Chasselas Vibert,</b>	<b>Stockwood Golden</b>
	<b>Hamburg,</b>
<b>Early Malingre,</b>	<b>Trentham Black,</b>
<b>&amp;c., &amp;c., &amp;c.,</b>	<b>&amp;c., &amp;c., &amp;c.,</b>

For a full list of varieties and prices, as well as for lists and prices of Hardy Grapes, see our Catalogue No. 4. See also general advertisement **ELLWANGER & BARRY,** Rochester, March, 1863. **Mount Hope Nurseries.**

### Concord Grape Vines.

Our stock of vines of this justly popular grape is very large and superior, which we offer at:

25 cts. each; \$2.50 per doz.; \$12.50 per 100; \$100 per 1000.

For prices of **DELAWARE,** and many other kinds, see our Circular which will be sent to all applicants free of charge.

J. KNOX.

Box 155, Pittsburgh, Pa.

### The Adirondac Grape.

The earliest and best native Grape, ripening two weeks before the Delaware, possessing a most delicious flavor, in fact, equal to the most delicate vinery grape.

Vines sent by Express, securely packed in sealed boxes. Yearling Vines will be sent by mail to any part of the U. S. on receipt of the price of the vine, and six cents P. O. Stamp. Address **JOHN W. BAILEY,** March 1st. **Pittsburgh, Clinton Co., N. Y.**

**TRUE DELAWARE GRAPE VINES,** propagated from the original vine. Also Concord, Diana, Rebecca, Hartford Prolific, Creveling, Allen's and Rogers' new hybrids, and all other valuable varieties, new and old. Downing's Everbearing Mulberry, Raspberries, Strawberries, &c. Send for Descriptive Lists.  
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Persons at a distance can have Grape Vines, Strawberries, and all small articles carefully packed and sent by Mail, by **PRINCE & CO., Flushing, N. Y.**



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No. 1, LARGE FAMILY WRINGER, \$10.00	WITH COGS.
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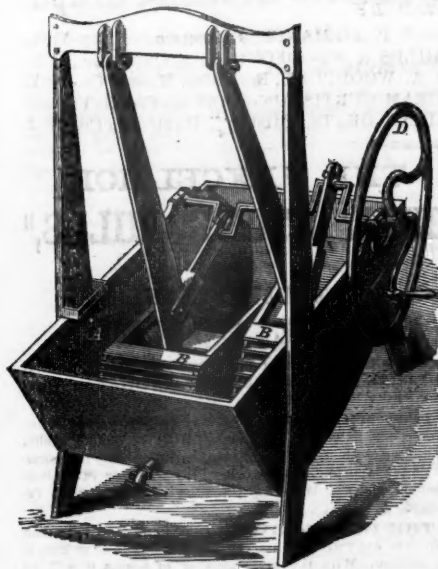
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Is the only entirely reliable machine in use. It has been before the public two years, and has not in any instance failed to give satisfaction. It saves two-thirds the labor and time required in hand washing.

It is a squeezing machine, and will not injure the finest clothing. A girl of fourteen years can operate it. It will not get out of order.

It is recommended by Mr. Judd, the proprietor of this Journal.

Prices: No. 1, \$12. No. 2, \$16. No. 3, \$20. Send for free Circular to

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## UPON ALLEN'S SYSTEM

CAN BE OBTAINED AT

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By this method the TEETH, GUMS, ROOF, and RUGÆ of the MOUTH are all truthfully represented, reflecting those delicate tints, shades, and forms peculiar to the natural organs, thus concealing from the observer the human agency in forming them. This we do positively accomplish, as evinced by our numerous patrons. The natural expression of the mouth, and original contour of the face can also be restored, which rejuvenates the waning cheek.

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An adhesive preparation, that is insoluble in Water or Oil and that will stick Patches and Linings to Boots and Shoes sufficiently strong without stitching. It will also mend broken Furniture, Crockery, Toys, and all articles of Household use effectually.

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## INSOLUBLE CEMENT.

Supplied in packages from 2 ounces to 100 pounds. It is a Liquid, and as easily applied as Common Paste. It adheres Oily Substances firmly and completely.

Can be procured at wholesale in all large cities, and at retail throughout the country.

HILTON BROTHERS, Proprietors, Providence, R. I.

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## \$150. SEVEN OCTAVE ROSEWOOD PIANO-FORTES. \$150.

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Heavy Mouldings, Carved Legs, etc., \$175 and \$200. Rosewood Tops, \$10 extra. Warranted for five years. Terms, net cash.

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MR. HENRY CRAIG—Dear Sir: I have received the Microscope you forwarded to me, and am well pleased with it. It is a valuable instrument, one that should be in the house of every family, where they can appreciate its value. The study of nature is one that is interesting and useful. Being in company with some of my friends the next day after I received my Microscope, I was compelled to part with it. Please find inclosed \$2.25 for another of your Microscopes. Direct to Henry V. Space, White House, P. O., Hunterdon Co., New-Jersey.

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WHAT EVERY FARMER AND AMATEUR should have.—One of Parr's Tool Chests fitted up with complete sets of tools, sharpened and set ready for use, and packed in cases for shipping. Boy's size, containing 44 tools, price \$9; Gentlemen's size, containing 50 tools, price \$22; Youth's, containing 32 tools, price \$14; Planter's and Farmer's, containing 32 tools, price \$32; also smaller chests for Juveniles, at \$2, \$3, and \$4 each. Shipped on receipt of price. Send for Circular, giving full descriptions, to the manufacturer  
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I offer for sale my Flock of PURE BLOOD SOUTHDOWN SHEEP, consisting of  
28 Ewes, 2 R. and 4 years old.  
2 Rams, 2 and 3 years old.  
17 Ewe Lambs, six weeks old.  
18 Ram Lambs do. do.  
The Ewes took the first premium at the Westchester Co. Agricultural Fair last Fall. Address  
WARREN LELAND,  
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## ITALIAN BEES.

I have still "TWO GENUINE ITALIAN QUEENS," from my importation of March, 1861, from which I shall continue to breed during the coming season. Orders are requested to be sent in as early as possible.  
Price for a queen with a few hundred workers \$10. Safe arrival guaranteed. C. WM. ROSE, 63 Exchange Place.  
Or I am willing to sell out these two genuine Queens to any person that will offer me a fair price for them.

## Ayrshire Cattle for Sale.

The Subscriber having a herd of eighty-five Ayrshires—comprising fifteen bulls and seventy cows and heifers—all of which were either imported or bred by himself—offers at private sale several of both sexes.  
Catalogues, giving a description of each animal, may be obtained of SANFORD HOWARD, Office of Boston Cultivator, or of  
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THOROUGH BRED AYRSHIRE HEIFERS.—Yearling, two and four years old. Thorough bred Devon Bulls, two and three years old. For sale by ALFRED M. TREDWELL, Madison, Morris Co., N. J.

ALDERNEY STOCK. THIRTY COWS, HEIFERS, and heifer calves for sale. Apply to  
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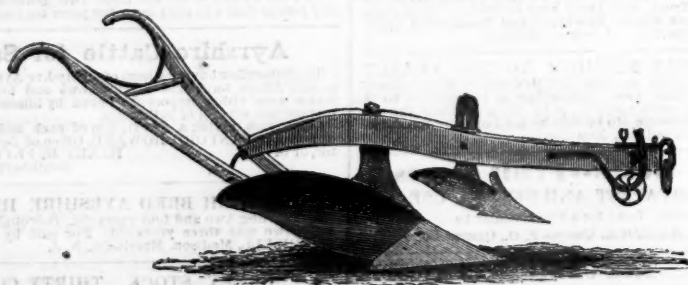
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We had a piece of poor, sandy loam land, which he planted with potatoes, without manure. He put Poudrette in the hills eight rows, then omitted eight rows, and then put lime in the hill, as he had a mind to try that.

The result was, that where the Poudrette was put, the potatoes came up three or four days before the others. The tops were twice the size during the season, and at harvesting we measured two lots of each, one of which the Poudrette gave twice the quantity of potatoes, and the other in the proportion of five to three.

The lime had no perceptible effect.  
We had a piece of corn land, sandy loam, (my village land is sandy and gravelly loam,) the corn had a liberal dressing, say ten cords of barn dung to the acre, spread upon grass land, a part ploughed in the fall before, the balance in the spring. The tenant prepared a compost to put in the hill, a mixture of night soil, hog manure and loam well mixed, several times shoveled over, and well incorporated together. This was put in the hill. In eight rows through the middle of the piece, this was omitted and Poudrette was substituted instead. The result was, the Poudrette brought the corn up sooner, of a better color, and at the end of two weeks after it came up, nearly twice as large, and it maintained it a head and shoulder above the other during the season. At harvesting, we measured the corn, and where we got five bushels with the compost, we had six bushels with the Poudrette.

This satisfied me, and convinced my unbelieving tenant that it was something besides dirt. I have used it with whatever I plant ever since, and shall continue to do so, as long as it maintains its character, and is furnished at reasonable prices. We sometimes think we save an entire crop of corn by the use of Poudrette, in case of early frost, as it brings the crop to maturity at least a week earlier.

There has been an increasing demand here since it has been introduced, and from my own observation, and the information of others, I think it does as well on upland soils as upon sandy loam. I have not been so particular since my first experiment, but every year I left a few rows so as to be sure that it maintains its character. The present year there is a very marked difference in the appearance of a few rows left without the Poudrette, in a piece of corn not yet harvested. The appearance of your Poudrette to one not accustomed to it, is not very flattering. I will relate an anecdote on this point. In 1860 I prevailed upon a neighbor to try a couple of barrels, for which, I think, he paid me \$4.00. He informed me afterwards, that he took it into his field all alone, and opened it; said he, I said to myself, if some one will come along and give me a dollar, he shall have both barrels. No one coming along, he tried it, and has used it every season since, and thinks very highly of its fertilizing qualities. Some of my neighbors have said to me, that they thought it had been worth to them \$5 per barrel. I have used other fertilizers, such as Guano, Superphosphate, &c., most of which are beneficial, but none come fairly up to the Poudrette. One particular advantage Poudrette has over other fertilizers is, that the smell is not offensive, and it will not kill the seed.

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**Books Not Advanced.**—By reference to the list on page 127, it will be seen that the prices remain the same for April as for March, with two or three exceptions. Several are struck out because no longer issued, and some additions are made. This list is good only for the month in which it appears, as during the scarcity of paper publishers are continually advancing prices, and suspending publication of many books.

The following Premiums will be continued through the month of April. See N. B. below, and page 104.

## GOOD GRAPES FOR EVERYBODY.

Here is a Special Offer that will interest a very large number of our readers.

During the past year we have had grown and selected a choice stock of vines of the best two grapes for general culture now known, viz.: the *Delaware* and *Concord*.—Our successful experience in sending out 40,000 Strawberry plants by mail, all over the country, and without a dozen cases of failure, has demonstrated that with the same care in putting up and mailing, we can send grape vines in the same manner. We therefore offer to send these vines as premiums to all who will forward subscribers to the *American Agriculturist*. (See conditions below.) We believe almost every one can find two or more neighbors or others, who will subscribe for the paper if its merits and cheapness are properly brought to their notice by some one who has read the paper and can speak from experience of its value. It is now the *cheapest* journal in the country—with its many carefully prepared articles for the Farm, Garden, Household, and the Young People. Though constantly making improvements—and though printing paper and other expenses are nearly doubled—we keep it at the old price of \$1 a year. (The purchase of a large stock of paper in advance, and the great increase in subscriptions enable us to do this.)—The vines we offer, are not only good ones, but they are of the best two sorts for general culture, viz.: the

### Delaware and Concord.

The *Delaware* is universally conceded to be the best flavored grape, and taking into account all its good qualities, it is placed highest on the list in many parts of the country. The scarcity and high price of the vines have hitherto prevented their general diffusion. (Less than three years ago we paid \$3 each for our first stock of vines, and very small ones at that.)

The *Concord* is a very early grape, adapting it to cultivation much further north than the *Isabella* and most others. It is exceedingly productive and vigorous, and thrives even under neglect. It has been thoroughly tested, East and West, and though some think it not equal in flavor to the *Delaware*, it is pronounced very good by all. For general, careless culture, under all circumstances, we place the *Concord* first on the list. Most others put the *Delaware* far before it. (See report of the Fruit Growers' Meeting, on pages 82-3 last month.) Our advice therefore is, that all who can do so, should get one or more vines of each variety, and afterward multiply the kind that proves by experience to be best suited to their individual locations, soils and preferences. We offer to send these Grape Vines on the following

**CONDITIONS:—On and after March 1st, (not before), to those sending Subscribers to the American Agriculturist for Volume XXII. (1863) at One Dollar each, we will forward, securely packed and post-paid:**

For Two Subscribers at \$1 each,	1 Vine.
For Five Subscribers at \$1 each,	3 Vines.
For Eight Subscribers at \$1 each,	5 Vines.
For Ten Subscribers at \$1 each,	10 Vines.

And for over ten subscribers, one vine for each name. We specially request that the names of any club for the vines be all sent at the same time.

Those sending for premium vines can make their own choice: if for one vine, which kind; if for two or more, what number of each, and give in full the Post Office address to which they are to be sent.

**N. B.—1.** The above premiums are only for subscribers sent in on or after March 1st, and will only continue open so long as our supply lasts. Probably however the supply will hold out through the month of April, and perhaps as long into May as it will do to mail the vines.

2. These premiums are special; no other premiums of any kind will be paid on names sent for these vines.

3. The mailing of the vines will commence March 27th, and continue until May 1st, or later, according to the locality to which they are sent. To all who apply early enough, a Circular Letter will be sent out about a week in advance, stating the time the plants will be mailed to them. The Circular will also give directions for the treatment of the vines, with hints on culture, etc. The plants going furthest South, will of course be sent first, and those furthest North the latest; but every application will be entered in order, as soon as it comes to hand, so that no one will be unsupplied, who applies before the entire stock of vines is exhausted.

It will of course be a pleasure, as well as for our interest in the future, to have every vine a good one, put up carefully and in the best manner, and to have it receive such care and attention as to make it give entire satisfaction. As stated above, we have within a year past mailed 40,000 strawberry plants, and have not heard of half a dozen cases of failure or dissatisfaction. We hope for equally good success with the Grape Vines.

**Special to Subscribers in Canada, and on the Pacific Coast.**—There will be considerable risk in sending vines to the Pacific Coast after April 1st. The practice of some of the Postmasters in the Canadas and other British Provinces, of charging 20 cents an ounce, after the United States postage is prepaid, will prohibit sending these vines there, except when they can be sent to a United States Post-Office near the Line, or be sent by express. When eight or more are sent together, they can frequently go by express. We do not advise planting the *Delaware* in New-Brunswick, Nova Scotia, Lower Canada, or in Upper Canada, except south of Lake Ontario. The *Concord* will often thrive further North; and in favorable locations, the *Delaware* also.

**Supplying Lost Numbers of the Agriculturist.**—To several inquirers. —When we have mailed the papers carefully and correctly as we always strive to do, our legal responsibility ceases. But our custom is to send a duplicate copy where the first has been lost by mail, or has been injured by using it as a specimen in securing subscribers—not when injured by lending to those who never subscribe. When specially desired, a specimen copy is supplied for canvassing. Paper is too costly to send out specimen copies at random. With the above exceptions, 10 cents is charged for extra copies, of the current or past volumes. —We can not send numbers or volumes prior to Volume 16, (1857).

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Volumes 16, 17, 18, 19, 20, and 21, unbound, \$1.12 each.  
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